MEMORIES OF THE MONTHS

FIFTH SERIES

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MEMORIES OF THE MONTHS

FIFTH SERIES

A Scottish Garden

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Memories of the Months

FIFTH SERIES

BY THE RIGHT HON.

SIR HERBERT MAXWELL

BART., F.R.S., D.C.L., LL.D.

Horas non numero nisi felices

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PREFACE

I FEEL inclined to ask the printer to use red ink for the introduction to this volume, as serving to indicate how I blush at my temerity in laying before a too indulgent public a fifth bundle of these desultory notes. Nobody can be more conscious than myself of their ephemeral quality; but the public has itself to blame, if blame there be, because of the encouragement it has shown me to give a more or less permanent form to fleeting impressions, and to prose about matters one cannot but notice in moving through our beautiful land.

After all, it is well within the command of readers to bring the series to a conclusion by ceasing to pay it any attention.

Of the following papers, Nos. XXI. and LXVIII. have already appeared in *Blackwood's Magazine*, whereof I thank the editor for his permission to reprint them. Most of the rest have seen daylight in the pages of the *Pall Mall Gazette*.

HERBERT MAXWELL.

MONREITH, 1909.

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CONTENTS

JANUARY

PAGE

I. 'ROYAL AND ANCIENT' 1

II. A NEW WHALE 8

III. PUFFINS AND RATS 11

IV. STARLINGS AND LAPWINGS 14

V. FLOWERS AND SEASONS 18

FEBRUARY

VI. THE BEST WORK ON ZOOLOGY 23

VII. RAINBOW TROUT 25

VIII. THE WASTE OF LIFE 27

IX. ABYSMAL OCEAN 32

X. BIRDS BENEFICIAL AND BIRDS BANEFUL . . 33

MARCH

XI. EAGLES 41

XII. CORMORANTS 42

XIII. THE YEW 44

XIV. THE AGE OF BIRDS 50

XV. THE RINGDOVE DISEASE 52

APRIL

PAGE

XVI. PROTECTIVE COLOUR 54

XVII. THE BORROWING DAYS 60

XVIII. THE WATERSIDE FOR ME! 62

XIX. SPRING SALMON 66

XX. SALMON HATCHERIES—ARE THEY USEFUL? . . 68

XXI. MONTENEGRO 71

MAY

XXII. BIRCH AND BEECH 98

XXIII. LONDON BIRDS 103

XXIV. SPRING FLOWERS 109

XXV. FALCON AND HERON 114

XXVI. BAD TIMES FOR PEEWITS 115

XXVII. BIRDS FROM THE LIFE 116

XXVIII. THE KING OF THE HERRINGS 120

JUNE

XXIX. HOW YOUNG WATERHENS LEARN TO SWIM . . 125

XXX. SQUILLS 126

XXXI. TWO GOOD NATURALISTS GONE 129

XXXII. PARENTAL DEVOTION OF BIRDS 131

XXXIII. THE EVIL SUMMER OF 1907 135

XXXIV. RURAL PLACE-NAMES 138

JULY

XXXV. THE PRIMROSE FAMILY 144

XXXVI. DEATH-DEALING FLOWERS 150

XXXVII. THE LUMPSUCKER 155

PAGE

XXXVIII. ANOTHER QUEER FISH 160

XXXIX. PLANTS TO BE AVOIDED 162

AUGUST

XL. FARM AND GARDEN PESTS 166

XLI. THE SHELDRAKE 170

XLII. SOME BIRD PARASITES 174

XLIII. AN ISLAND PARADISE 176

XLIV. HIGHLAND WILD FLOWERS 181

XLV. THE NAMELESS TARN 185

SEPTEMBER

XLVI. THE LITTLE BROWN BIRD 190

XLVII. BORROWED PLUMES 195

XLVIII. THE AMERICAN BISON 199

XLIX. THE MÉDOC 203

L. A SUNLESS SUMMER 211

OCTOBER

LI. THE CAUSE OF THE BIRDS 213

LII. CORD-GRASS, ... 218

LIII. RABBITS 221

LIV. TOADS 226

LV. THE GREAT SPOTTED WOODPECKER 232

NOVEMBER

LVI. A MILD AUTUMN 237

LVII. AUTUMNAL FLOWERS 239

LVIII. AUTUMNAL FOLIAGE 248

PAGE

LIX. THE CRUELTY OF DOCKING HORSES 253

LX. A FOREIGNER OF DISTINCTION 255

LXI. SPARE THE CURLEW 257

DECEMBER

LXII. THE PERPETUATION OF SPECIES 260

LXIII. THE DEAL-FISH 263

LXIV. BELATED SWALLOWS 265

LXV. BIRD NOTES FROM EAST ANGLIA 267

LXVI. THE GREAT GREY SHRIKE. 271

LXVII. THE LARCH 273

LXVIII. AN EIGHTEENTH-CENTURY LAIRD 278

LXIX. A WINTER STORM 302

LIST OF ILLUSTRATIONS

A SCOTTISH GARDEN: GORDON CASTLE, . . . *Frontispiece*
(Photo by the Author.)

ON THE DALMATIAN COAST, ... *Facing p.* 90
(Photo by the Author.)

THE TERRACE TEA, ... „ 104
(Photo by the Author.)

THE AMERICAN WOOD-LILY (*Trillium Grandiflorum*) AT MONREITH, ... „ 112
(Photo by the Hon. Gerald Legge.)

THE RESTING-PLACE OF ST. CUTHBERT, . . . „ 142
(Photo by the Author.)

THE NAMELESS TARN, ... „ 186
(Photo by Sir John Stirling Maxwell.)

January

1

TWENTY years ago, or thereby, a small society, consisting chiefly of members of Parliament and a few journalists from the gallery, set about organising a golf club and obtaining suitable ground for links in a suburban district. At that time, if I remember aright, there were but two courses in the neighbourhood of London, to wit, Blackheath and Wimbledon Common. We had the option of securing on favourable terms the freehold of a pretty country house with ample scope for our purpose in the park surrounding it, whereof the proprietor, having decided to surrender all outside the demesne to be built upon, thereby destroying his own seclusion, desired to enhance its value by keeping the park as an open space for the greater amenity of the neighbourhood.

'Royal and Ancient'

It was a radiant opportunity for the nascent club. The mansion-house would have made an ideal club-house, and the undulating park which it crowned, with scattered gorse bushes, required little labour to develop into an admirable links.

Yet we hesitated. To justify the venture we required assurance of at least one hundred members; there

seemed no prospect of enlisting more than sixty, and no certainty of keeping those who enlisted. Signs were not wanting that the Southron was waking up to the fascination of 'far-and-sure'; but the cycling craze, which during two summers sent hundreds of fashionable folk wobbling round Battersea Park, was already on the wane; what if the passion for golf should prove equally fleeting? A hundred permanent members! The majority of the committee decided that was too much to expect; golden opportunity went by, and a lease was secured of a few fields outside the demesne.

Twenty years ago! What have we not witnessed in the interval? Whereas then it was a rare occurrence to find a leisured Londoner who could discern any difference between a mashie and a putter, now it is the exception to find one who is not ready to discuss all the points in swing, the niceties of approach, and the vices of pulling and slicing.

A Londoner, said I? Where and what is the civilised community to whom all the quaint vocabulary of golf has not become as household words? This must mean a great deal to Mr. H. S. C. Everard, forasmuch as, had his *History of the Royal and Ancient*[1] appeared in the early 'eighties, his readers south of the Tweed must have been few indeed; whereas, being published in the year when the championship of the United Kingdom has been awarded to a Frenchman (1907), his volume commands attention from all parts of the civilised world.

[1] *A History of the Royal and Ancient Golf Club, St. Andrews, from 1754 to 1900.* By H. S. C. Everard. Edinburgh: Blackwood. 1907.

Commands it not only in virtue of the importance of the subject (for as the M.C.C. is to cricket, so is the Royal and Ancient to golf), but also in virtue of its literary treatment and the admirable illustrations with which it abounds. Mr. Everard has done full justice to his theme in a narrative both lucid and lively, and his publishers have incorporated it in a beautiful volume.

In a preliminary chapter by Mr. James Cunningham, it is admitted that, although St. Andrews is the acknowledged metropolis of golf, the game is an exotic in Scotland, having travelled thither from Holland, where it died out at least two hundred years ago. But it had become so firmly established four hundred and fifty years ago as to interfere with the statutory weapon-shaws and 'schutting at the buttes,' wherefore the Scottish Parliament decreed that 'the fute-bal and golfe be vtterly cryed downe and nocht vsit' on pain of outlawry. This notwithstanding, the game flourished, spreading from east to west of Scotland, so that in Queen Mary's reign St. Andrews had a vigorous offspring on Prestwick links. There is evidence, too, that there were hard drivers among the westland players; for in that delectable chronicle of misdoing, *The Historie of the Kennedyis*, we read of the Laird of Bargany, who died about 1578, that 'his neise was laich (nose was flattened) be ane straik of ane goiff ball on the hills of Air in recklesnes.' Be it remembered that balls in those days were neither plain 'gutties,' rubber-cored, nor even feather-stuffed, but turned in solid crab-wood.

Mr. Everard traces some of the peculiar terms used in golf, whereof the etymology has puzzled many thinkers, to a Dutch origin. Thus he suggests that 'stymie' represents 'stuit mij' (pronounced 'styt my'), which is good Dutch for 'it stops me.' 'Tuitje,' pronounced 'toytee,' a small heap, appears as the modern 'tee,' and 'to putt' probably comes from the Dutch 'put,' a hole. To putt out and to hole out, therefore, are exact synonyms.

All this, however, and much more of the same sort, is but the garnishing to Mr. Everard's *pièce de résistance*—the chronicle of the 'Royal and Ancient.' The society took its rise from a meeting of two-and-twenty noblemen and gentlemen, who being admirers of the 'ancient and healthful exercise of the Golf,' did, on 14th May 1754, draft formal articles and laws regulating play. It is to this momentous document, occupying several pages of the minute-book, still preserved in the Club, that the modern game owes the precision of its rules; for, although there have been many modifications in minor points, the main principles remain unchanged to this day, and every golf club, from San Francisco eastward to Singapore, from St. Petersburg southward to Australasia, conforms to every fresh edict issuing from

> 'The little city, grey and sere,
> Though shrunken from her ancient pride,
> And lonely by her lonely sea.'

The orthodox number of eighteen holes, it seems, was fixed by pure chance. There were originally twenty-two holes on St. Andrews links, and so it continued till

1764, when the first four holes were converted into two. Thenceforward every full course has been laid out to correspond with Alma Mater.

It is interesting to examine the early scores recorded in the minute-book. William St. Clair, of Roslin, whose well-known portrait in scarlet golfing coat by Sir George Chalmers, has been beautifully reproduced in colour as Mr. Everard's frontispiece, won the Silver Club in 1764, with 121 strokes for the 22 holes, which is equivalent to 99 for 18 holes. He was then sixty-four, and the performance must be considered good—far better, probably, than any amateur of the present day would back himself to accomplish with the feather balls and long-headed clubs of those times. Two years later he was to the front again at St. Andrews with a score of 103 for the 18 holes.

'In 1768 the remarkable veteran wins again with a score of 106 . . . thus his three victories averaged 102 and a fraction, and they were gained at the ages of sixty-four, sixty-six, and sixty-eight. . . . When "Old Tom" won a professional competition at the age of sixty-one, he was looked upon as a sort of rejuvenated Æson, and the occurrence was deemed sufficiently remarkable, as indeed it was.'

In estimating the merit of St. Clair's performance, the condition and size of putting-greens in the eighteenth century must be taken into account. They cannot have been the ample, flawless carpets which we now insist on having, for in 1777 the council decreed 'that in time coming none of the society shall tee their (*sic*) balls within less than a play-club length of the

hole from which they are to strike off, nor at a greater distance than four lengths of said club from the hole.' Imagine what would be the effect upon the greens were this rule to be enforced now; and there are men still living, and perhaps playing, who remember a time when it was operative. It certainly was so in 1855, when Mr. George Glennie did the eighteen holes in eighty-eight, a score which remained unbeaten till 1884. 'It is satisfactory to think that his memory remains green; that the Royal and Ancient have a tangible token—a Glennie medal—which annually recalls the name of this great player.'

Among the *adversaria* of the society, which had a strong symposiac side at a period before cigarettes had put conviviality to flight, there are recorded some amusing bets. About the year 1830, the medal-holder backed himself for ten pounds to play from the first hole of St. Andrews links to the toll-bar at Cupar in two hundred tee'd strokes, a distance of nine miles. At first sight this seems a herculean performance, but apparently nobody accepted the wager, the calculation having been made that one hundred and fifty-eight drives of no more than one hundred yards each would cover the whole distance of 15,840 yards and leave a good margin for divergence and topped balls.

They lived high, these heroes of a bygone age, and, as became Scotsmen, prided themselves on the quality of their mutton; but of the claret which, according to immemorial national custom, should have been the appropriate libation, there occurs no mention. 'Let him drink port,' the British statesman cried, a com-

mand which frequent entries like the following show to have been readily obeyed:

'Mr. Bruce of Grangemuir bets that he will produce a leg of mutton against the September meeting of the Club superior to one to be produced by Mr. Haig of Seggie, for a magnum of port to the Club. Taken by Mr. Haig.

'Mr. Bruce also bets that he will produce at the December meeting next a leg of white-faced mutton superior to one to be produced by Mr. Glass, Kinaldy, for a magnum of port. Taken by Mr. Glass.

'The Captain bets that he will produce a ham superior to one to be produced by Mr. Bruce against the next meeting for a magnum of port. Taken by Mr. Bruce.'

Not only, then, to the broad sunlight and the keen breath of the German Ocean must be attributed the fine Venetian complexions of the notabilities whose portraits, finely reproduced by the three-colour process, adorn and enliven Mr. Everard's pages.

'Ætas parentum, pejor avis, tulit
Nos nequiores.'

Few of our feebler generation would present a very brave appearance on the links on the morrow of an encounter with those big-bellied magnums; fewer still are those whose heads could endure the burden of the portentous chimney-pot hats, which appear to have been deemed as indispensable a part of the general sportsman's costume seventy years ago, as they remain to this day, strange to say, in that of the fashionable fox-hunter. It deepens veneration for the physical prowess of our grandsires to know that they disdained to sacrifice dignity to comfort by donning democratic

flannel shirts and socialist soft caps; adding to the innumerable difficulties of the game by playing in high stocks, 'Gladstone' collars and unbending 'toppers.' *Noblesse oblige*: and in days when men played cricket, went fly-fishing, and even deer-stalking, in what the Scots caddie calls a 'lum ha-at,' it would never have done for members of the Royal and Ancient to have shrunk from the universal test of 'noblemen and gentlemen.'

I thank you, Mr. Everard, for a most agreeable hour spent in conning your chronicle, and for the excellent judgment with which you have caused to be reproduced the likenesses of notable golfers of an elder age. Our sense of portraiture has been sadly blunted by the relentless camera which reveals nothing but the skin-deep. It requires such brush and pencil work as is here reproduced to bring back to us the personalities of the past, recreating the impression they made on the senses of a competent painter.

II

A New Whale

Rumours of an Antarctic whale, unknown to science, have reached this country from time to time, exciting interest, tinged with scepticism, among European naturalists. These rumours have been amply confirmed by Mr. E. A. Wilson, naturalist to the recent *Discovery* expedition. On January 28, 1902, three of these whales, easily recognised by the high and narrow back fin, were seen off Ross's great ice barrier, and four others on February 8 following.

They were not large, as whales go, measuring only between twenty and thirty feet in length, with short blunt muzzles, black above and white below, the characteristic fin standing three or four feet above the back. Mr. Wilson assigns this new whale to the *Mystacoceti*—the baleen or whalebone group of cetaceans—and considers that it will prove to constitute a new genus.

It is to our grief that Sir William Flower is no longer among us to share the interest in this discovery. Deep and catholic as was his affection for all living creatures, he made the whales his peculiar care, and sorrowfully foresaw their approaching extinction.

'For countless centuries (he said in a lecture to the Royal Institution in 1883), impulses from within and the force of circumstances from without have been gradually shaping the whales into their present wonderful form and gigantic size; but the very perfection of their structure and their magnitude combined, the rich supply of oil protecting their internal parts from cold, the beautiful apparatus of whalebone by which their nutrition is provided for, have been fatal gifts, which, under the sudden revolution produced on the surface of the globe by the development of the wants and arts of civilised man, cannot but lead in a few years to their partial, if not complete, extinction.'

While Sir William Flower held that the evidence was 'absolutely conclusive' that whales represent the adaptation of a terrestrial mammal to an aquatic existence, he was equally firmly convinced that they are not descended, like seals and walruses, from the Carnivores, but that they exhibit affinities with the Ungulates. True that none of the cetaceans are

vegetarian, but Sir William Flower believed that primitive Ungulates were omnivorous, as their least modified descendants, the pigs, remain to this day. Treacherous and misleading as is most popular zoology, he considered that it was a true flash of intelligence which caused sailors and fisher-folk to give to the commoner and smaller cetaceans such names as Sea-hog, Sea-pig, and Herring-hog. The French also, not content with lending us *porc-poisson* to shorten into 'porpoise' have in turn borrowed *meerschwein* from the Germans, and altered it to *marsouin* to denote pig-fish or porpoise.

'We may conclude (said Sir William Flower), by picturing to ourselves some primitive, generalised, marsh-haunting animals with scanty covering of hair like the modern hippopotamus, but with broad swimming tails and short limbs, omnivorous in their mode of feeding, probably combining water-plants with mussels, worms, and fresh-water crustaceans, gradually becoming more and more adapted to fill the void place ready for them on the aquatic side of the borderland on which they dwelt, and so by degrees being modified into dolphin-like creatures inhabiting lakes and rivers, and ultimately finding their way into the ocean. . . . Favoured by various conditions of temperature and climate, wealth of food-supply, almost complete immunity from deadly enemies, and illimitable expanses in which to roam, they have undergone the various modifications at which the cetacean type has now arrived, and gradually attained that colossal magnitude which was not always an attribute of the animals of this group.'

Still, evolution has its limitations, and although a March brown or a Mayfly changes in the twinkling of

an eye from a water-breathing animal to an air-breather, tens of thousands of years have not sufficed so to alter the respiratory system of aquatic mammals as to exempt them from the necessity of coming to the surface to breathe, thereby exposing themselves fatally to assault by restless, ruthless man.

III

Puffins and Rats

It is good to note that the example set by the British Parliament in passing legislation for the protection of rare or desirable birds is being followed by colonial legislatures. The attention of the Tasmanian Government has been called recently to the enormous destruction of mutton-birds, a species of shearwater (*Puffinus tenuirostris*), which has been going on at an accelerated rate for some years past on the Furneaux Islands, a group lying between Tasmania and Victoria. Already a kindred species, *Puffinus brevicauda*, which used to breed in vast numbers on islands in Bass's Strait, has been all but exterminated, owing to the ruthless way in which the colony was devastated. Professor Newton recorded 60,000 breeding birds having been taken there in a single season. It is only in the breeding season that these birds are marketable for their fat, 'the young,' as Gould described them seventy years ago, 'being literally one mass of fat, which has a tallowy appearance.' The figures quoted by Newton sink into insignificance compared with those supplied to his Government by the Commissioner of Police in Launceston (Tasmania),

representing the numbers of mutton-birds landed in that port during the last five seasons, namely:—

1904,	379,804	1907,	572,671
1905,	459,094	1908,	636,592
1906,	493,777		

It will be noted how rapidly progressive these figures are, and how impossible it is that any species, however prolific, can survive long such wholesale destruction at the most critical period of their existence. Luckily, the Tasmanian Government is fully apprised of the commercial importance of mutton-birds. Reserves have already been established; licences have been imposed for killing the birds, and further measures of restriction are in contemplation. It is said, also, that probably an attempt will be made to restore the old and exhausted colonies in Bass's Strait.

Seeing how practicable it is for man to wipe out whole races of innocuous and desirable creatures, it is surely greatly to be wished that efforts should be concentrated upon the extermination of hurtful and unclean animals. Sir James Crichton Browne and others have proclaimed (1909), and are endeavouring to organise, a most laudable crusade against rats. More power to them! Our insular position gives us an advantage against these most undesirable aliens; and although homeward-bound ships will continue to replenish the race, it should be quite possible to rid ourselves, at all events, of the unclean hordes which we have allowed to pollute our dwellings and impoverish our stores.

We have grown so accustomed to the presence of these detestable rodents that most people, if they ever

give the matter a thought, regard them as true natives. It may surprise them to be reminded that a couple of centuries ago there was not a brown rat in the British Isles, and that brown rats and rabbits, the two most destructive mammals in our land, are both imported species. Where the brown rat originally came from has been the subject of much discussion. Just as the Spanish peninsula appears to have been the original habitat of the rabbit, so the brown rat seems to have spread outwards from Western Mongolia. Good Jacobites used to attribute their introduction to the Hanoverian dynasty, and indeed they were not far wrong in the matter of synchrony, for the earliest appearance of brown rats in England is noted early in the eighteenth century. They seem, however, not to have reached Scotland until some years after the Stuart star had set for ever at Culloden in 1746. The foreign origin of this species is commemorated in the popular English name, 'Norway rat,' while in Ireland it is known as *luch franncach*, the French mouse; but the utmost that Hanover, Norway, and France can have done is to have passed on to us the pest which had already overrun them from the Orient. Indeed, the Prussian naturalist Pallas (1741-1811) was of opinion that these creatures did not enter Europe before 1727, when there was a notable western exodus of them from Asia, and when they first succeeded in crossing the Volga. Considering, however, the ease with which these brutes are transported in ship cargoes, it is impossible to fix the exact date of their first arrival in a maritime country like this; and all that

may be safely affirmed is that they were unknown in the British Isles previous to the eighteenth century. Anyhow, the brown rat has prevailed within the space of two centuries almost to exterminate the less powerful, less objectionable black rat, which swarmed in all parts of this country before its arrival. Mr. Millais pronounces the black rat to be practically extinct in all our inland districts, though it is still to be found sparingly in seaports, which he attributes to fresh importation in ships from foreign ports.

While I am on the subject of rodents, let me impart to my fellow-gardeners a useful wrinkle which I picked up lately from a friendly newspaper. My flower garden has been infested for two seasons (ever since the disappearance of a pair of stoats) by long-tailed field mice. The destruction wrought by these little devils among bulbs and alpine plants has been heartrending; but in the last three months their numbers have been greatly reduced by the simple expedient of placing in their haunts wide-mouthed jars, half-filled with water, and buried so that the rims are flush with the ground-surface. The mice fall in and can't get out. Some hundreds have been killed in this way.

IV

Starlings and Lapwings

Perhaps no wild bird has increased so much in numbers within living recollection as the starling. When I was a schoolboy, its pale blue eggs were considered in the south of Scotland, if not a rarity, at all events among the less

common prizes. It is far otherwise now. There are few cultivated districts in the United Kingdom where starlings do not nest in numbers, collecting in immense flocks in autumn to feed in company with plovers and other insectivorous birds.

It must be owned that the popularity of the starling has not kept pace with the numerical increase of the species. Individually, there is no more engaging bird. To the nimble wit and cautious intelligence of the rest of the *Corvidæ*, or crow family, is united in this prettily-spangled creature a knack of mimicry; so that in listening to the conversation of a pair of starlings seated on a chimney-top in midwinter one may recognise a medley of sounds uttered by other birds during the bygone summer—the wail of a curlew, the flurried pipe of the redshank, the clucking of the coot, snatches of melody learnt from song-birds, and so on. But, collectively, starlings are not favourites with many people. Their roosting-places become abominably dirty and malodorous, so that it often is necessary in self-defence to oust them from shrubberies in which they have established a dormitory. From many a dovecot have the legitimate occupants been expelled by the intrusion of these irrepressible creatures: market gardeners complain of depredations on ripe fruit, and even farmers eye with suspicion the operation of large flocks of these birds upon their fields.

Nevertheless one should balance good against evil before passing judgment upon any creature. In the case of the starlings, all naturalists are agreed that the good outweighs the evil, owing to the enormous

quantity of insects destroyed by these diligent hunters. In the *Zoologist* for October Mr. Arthur Patterson has the following note from the Fen country confirming this fact:—

'On September 18th hundreds of starlings were busily feeding and squabbling on a low part of Breydon Marsh, smothered with the purple Michaelmas daisy. A gunner, who let fly two barrels into them, secured two dozen, mostly young birds with dingy brown heads. Being interested to know for what purpose they had concentrated, I purchased a number and dissected them, finding their gizzards crammed with a mass of matted stuff resembling cocoa-nut fibre, which on separating resolved itself into scores of legs of the daddy-long-legs (*Tipula*). The softer bodies and the wings were reduced to an indefinable pulp.'

Now these birds could not have been occupied more beneficially in the interest of neighbouring farmers. Every female among the swarms of *Tipulæ* would, if spared, have become the parent of a brood of leather-grubs, than which there is not a more destructive pest on arable or pasture land. It lives for three years underground, devouring the roots of grass and other valuable plants. We persecute the moles, which are the natural police against *Tipulæ* in the larval stage; should we not then be grateful to the starlings which destroy the perfect insect before it can found a new generation of leather-grubs?

Luckily in this country we do not regard the starling as edible; at least, I should be very sorry to attempt to make my luncheon on starling pie. But there is another bird, equally industrious in ridding the farm

of insect pests and with no fruit or grain-eating propensities whatever, which we allow to be slain each year in increasing numbers. Already in poulterers' shops, not of the first class, may be seen strings of lapwings exposed for sale, and this will continue till far on in next spring. May I make my annual protest against this mischievous traffic? Great Britain has held aloof from the convention of Continental States formed for the protection of birds useful to agriculture. King Edward's Government assumed this attitude on the ground that Parliament had already effected by legislation most of the objects which the Convention has in view. But the continued slaughter of lapwings is altogether at variance with—nay, is in direct opposition to—the main provisions of the Convention. It is true that powers have been conferred upon county councils enabling them to prohibit the killing, capture, or exposure for sale of lapwings or any other kind of bird at any or every season; but so long as these powers are not exercised, this senseless slaughter will go on, because, unhappily, there is a ready market for the carcasses of these useful birds. People whose palates are so gross as to be gratified by the flesh of carnivorous birds eat lapwings greedily enough. Why not compel them to be content with their eggs?—seeing that every lapwing destroyed means the preservation of hundreds of noxious insects, such as leather-grubs, wireworms, click-beetles, caterpillars, and the like.

V

Flowers and Seasons

To the Venerable Bede must be assigned credit as being the first to call attention in literature to the error in the Julian calendar, arising from neglect to take into account the anticipation of the equinoxes. Writing in the eighth century, he pointed out that the divergence of the true equinox, as fixed on March 21 by the Council of Nice in A.D. 325, had already in the year 730 caused the calendar to fall three days behind the season. 'Vox clamantis in deserto': nobody paid any attention to the warning of the erudite, but obscure, priest of Jarrow. Five hundred years later two other Englishmen reopened the question, namely, John of Halifax (Johannes de Sacro-bosco) and the Franciscan Roger Bacon, showing that the error had increased to seven or eight days; but these also failed to gain the Pope's ear. Two more centuries slipped away before Pope Sextus IV. committed the question of reform to the astronomer Regiomontanus, which had the effect of concentrating mathematical inquiry upon the problem; and at last, in March 1582, Pope Gregory XIII. issued a brief to the States of Europe, substituting what is known as the Gregorian, or New Style, calendar for the Julian, or Old Style.

Use and wont died hard in England. The Scottish Government adopted the New Style in the year 1600; but in England prejudice against any change prevailed till 1751, by which time the difference in the styles amounted to eleven days. In the present century this

difference has increased to thirteen days. If it seems strange to us that a great commercial nation like Russia, in common with all States recognising officially the Greek hierarchy, should be content with the inconvenience of lagging nearly a fortnight behind the rest of the civilised world, we have only to reflect upon our own obstinacy in refusing to accept the decimal system in our coinage and mensuration.

The reader may ask what on earth all this has to do with the heading of this paper. Well, this much—that all our ancient weather-saws apply, not to the seasons as they are now marked off in our calendar, but to the seasons of centuries ago, when they were several days in retard. One often hears it remarked that we seldom have an old-fashioned Christmas of the traditional snowy type; but Christmas, according to Old Style, now falls on what is January 7th in our reckoning—that is, in the very coldest part of the year; wherefore we must not test the truth of the proverb, 'A green Yule makes a full kirkyard' by the effect of open weather at Christmas time, but watch the result of a dripping January, which is apt to be avenged by fierce cold in February and March, and that is what sets the sexton to work overtime. Our sires would never have sanctioned so inept a saying as that wet and warmth in December heightened the bills of mortality.

So, again, all prognostications of the consequences of rain or shine on St. Swithin's Day are vitiated by uncertainty about the age of the saying; for the difference between the Julian and Gregorian calendars has

been, and is, progressive. In the eighth century it amounted only to three days; in the thirteenth to eight; in the seventeenth to ten; in the eighteenth to eleven; in the nineteenth to twelve; and in the present century, as aforesaid, to thirteen days. One old saw, however, seems to fit altered dates as accurately as of yore, namely, that which warns us that if March comes in like a lamb, it will go out like a lion. Also, March winds and April showers still bring forth May flowers; but how often and how grievously modern May Day belies the tradition which bids maids go forth at sunrise to prove the cosmetic virtue of the first May dew! Again, May blossom and May flies belong much more to June than to May. I have lately been editing the annals of a famous south-country fishing club, covering a period of more than eighty years. These are greatly enhanced in interest by the diligence wherewith the members of the club have noted annually the reappearance of migratory birds and the first rise of aquatic insects. It is true that a few May flies were generally seen during the last days of May, but the rise never attained its height before the first or second week in June, which, according to the Julian calendar, would still be reckoned in May. The moral of all this is that in comparing the present character of the seasons with that of bygone centuries, due allowance should be made for the altered style.

Meanwhile, early flowers are beginning their carnival without regard to human calendars. Snowdrops, usually the earliest harbingers, were late this year. I

once gathered the first on December 19, but this season they put in no appearance till January 10, allowing themselves to be anticipated by the charming little winter aconite and the Carpathian snowflake. The last-named flower only requires to be better known in order to be oftener planted. Its full-dress name is *Leucoium vernum carpathicum*; although probably only a geographical variety of the common spring snowflake, it is a very distinct and desirable thing, flowering a month earlier than the other, and carrying two blossoms on the stem instead of one. Bearing a general resemblance to the snowdrop, and rivalling it in milk-white purity, it is more ornate in form, and its beauty is enhanced by its fragrance and the richness of its golden anthers.

Of the vast family of rockfoils, the earliest is *Saxifraga Burseriana*, with pure white flowers on ruddy stems, springing from close, prickly cushions of the green known to painters as *terra verte*. Closely following comes a garden hybrid, *Saxifraga apiculata*, with bright grass-green pads thickly set with sprays of sulphur-yellow blooms. It is the offspring of the deeper yellow *S. sancta*, so called in allusion to its native Mount Athos of monastic fame. But among the earliest rockfoils none strikes a higher note than the strange little *S. Griesbachi*, one of the encrusted section. This requires some special attention. Very impatient of stagnant moisture, it should be packed closely between stones on a steep bank or retaining wall, with some old mortar rubbish and grit mixed with the soil, in a position to catch

every ray of sunshine. So placed, it will soon form a compact colony of silvery rosettes, some of which, about Christmas time, will begin to rise in a crimson cone from the centre. The cone grows slowly, quite regardless of frost, till it assumes the form of a column thickly set with bracts, the colour getting more intense as the flower buds develop. For full two months it gleams, a vivid ray of carmine, amid the grey stones, and finally flowers when about four inches high. Having now white, sulphur, golden yellow, and carmine supplied by rockfoils alone, for blue and purple we must turn to other families, which supply these tints in great abundance. For intense dark violet nothing can match the netted iris (*I. reticulata*), whereof the rich colour is greatly enhanced by a spark of brilliant orange upon each fall. *Iris histrio* gives light blue; so does the Apennine anemone, of which the variety called *blanda* is the earliest; and, of course, everybody can furnish their borders with crocus, hepatica, and spring cyclamens. Everybody does not do so, however, thereby forfeiting much of the legitimate delight of a garden, which is never so exciting as in the months 'before the swallows dare.'

February

VI

The best work on Zoology

The publication of the ninth and penultimate volume of the *Cambridge Natural History* (London: Macmillan and Co., Ltd., 1899) marks the approaching end of a work containing the condensation of such an amount of research and the harvest of so many intellects as to deserve a word of grateful recognition. The series is the field naturalist's indispensable *vade mecum*, or, to speak more accurately, work of reference; for it would be inconvenient to move about with ten volumes, each of 650 pages. The different groups of animated nature have been committed to the care of specialists in each; and the result is a compendium wherein every branch of zoology is brought well up to date. Man, being an arrogant and self-confident mammal, may demur to the place assigned to him in the scale of life by modern science. If he turns to the volume on 'Mammalia,' he will find himself at the top of the class still, which is satisfactory so far; but there is a sinister creature which receives a *proxime accessit*, treading uncomfortably close upon genuine human heels.

Luckily, this animal, presumably truculent, is only known now in a fossil and highly fragmentary condition and, as his presence has not yet been detected in British territory, it may be assumed that he will not claim representation at the coming Colonial Conference.

When Haeckel defined the gap between man and other mammals, he gave the name of *Pithecanthropus*, or Ape-man, to a hypothetical creature which must have filled it once; since which M. Dubois has discovered remains of the missing link in the Pliocene or early Pleistocene deposits of Java. Part of a skull, two teeth, and one thigh-bone, badly diseased, scarcely suffice to decide whether their late owner should be admitted to the *Hominidæ* or Man family or relegated to the *Simiidæ*, or Ape family. Meanwhile, men of science have given themselves and us the benefit of the doubt. According to modern classification, the *Hominidæ* consist of a single genus, and that genus of a single species, *Homo sapiens*, Man the Wise. Without disputing the universal fitness of the epithet 'wise,' one may reflect complacently that poor relatives are very troublesome, and that it is well for our nearest, the gorilla, to be kept in his place. Some consolation, also, may be derived from a sentence in Mr. Beddard's learned contribution to the *Cambridge Natural History*. Speaking of the great throat pouches which enable the gorilla to produce appalling howls, he gives a figure of the human larynx, showing traces which 'remain to testify to a former howling apparatus in the ancestors of man.' Blessed be that saving

word 'former,' else what might not the present House of Commons become on occasions!

VII

Rainbow Trout

Passing a London fishmonger's shop one day in February 1908, my attention was drawn to a beautiful rainbow trout, between two and three pounds in weight, in the pink of condition. Upon inquiring whence it had come, I was assured by an intelligent young man in charge that it had been taken in the nets from the tidal waters of the Aberdeenshire Dee. This goes to confirm the evasive character earned by these lovely fish. When rainbow trout were first introduced into this country a few years ago, we anglers thought that we had done with the old British brown trout for first-class sport. The newcomers grew so fast, and so far outshone the native race in lustre and excelled them in grace as to make them look quite shabby by comparison. But, as time went on, the fair promise was belied. True that rainbows reach a weight of two or three pounds in as many seasons, taking the fly boldly, and fighting most gamely when hooked; but after attaining that size they vanish. Their destination is now becoming known; they go to the sea. American icthyologists have long suspected that rainbows are not an adult species, but young specimens of the steel-head salmon, a regular sea-going creature. Quite consistent with this idea is the capture of these fish in salt water, which has happened in more than

one place. For instance, during five consecutive years a large number of rainbows were turned into the Bandon river, co. Cork. None is known to remain there now, but many have been taken in the salmon nets in the estuary, weighing from two to six pounds. Mr. Brandreth has made sustained attempts to stock the Welsh river Lledr with rainbows, and has experienced a like result. So anglers may rest assured that, for permanent satisfactory results in stocking, there is nothing to equal the British river trout, although rainbows afford pretty sport as adolescents.

* * * * *

Since writing the above note, I have made acquaintance with a river where rainbow trout have become thoroughly established, being already as numerous as the native *Salmo fario*, and showing every prospect of becoming the dominant race. Rainbows were turned into the Tamar some years ago by the Duke of Bedford, and now swarm in that lovely stream, albeit the course to the sea is quite open to them did they care to take it. They do not seem to grow to any great size; none of those which I took in two or three evenings' fishing weighed more than three or four ounces. But to show me what magnificent creatures rainbow trout may become, the duke had one of the stews in the park at Endsleigh netted. The rainbows there had been liberally hand fed, and had grown into magnificent creatures—five, six, and seven pounds in weight—of perfect symmetry and gorgeous colour.

VIII

Among all the green things of the earth, *Cynoches chlorochilon* ought to be in least danger of extermination. I believe it belongs to the Orchid family, whether possessed of ornamental or other merits I know not; but I learn from the *Kew Bulletin* (No. 4, 1909) that Dr. Scott has been at the pains to count the seeds contained in a single capsule of this plant, and has brought out the astonishing total of close upon four millions. One may quote such figures glibly enough; but how many intellects have been trained to grasp the significance of a million? Dr. Edward Tylor makes us smile at some instances of primitive arithmetic, which he quotes in his fascinating work on *Primitive Culture*; as, for instance, when the natives of Kamchatka were set to count, they managed to get as far as twenty, by reckoning up their fingers and toes, and then would ask, 'What are we to do next?' School boards have rubbed into most of our people a tolerably clear sense of a few thousands, but most of us talk of a million without even an approximate comprehension of the proportion borne by one thousand thousands to more digestible numbers. Practically the number of seeds produced by a single plant of this *Cynoches* is indistinguishable from infinity by one who is not a trained mathematician.

The Waste of Life

Some of our native plants perform wonderful feats in fecundity. Darwin reckoned the contents of a single capsule of the common spotted orchis (*O. maculata*) at about 6200 seeds; but he was told by F. Mueller

about a Brazilian Maxillaria that held 1,758,440 seeds in a capsule. When one reflects that each one of these minute bodies contains a vital spark, to be speedily extinguished in all but an infinitesimal percentage of them, one cannot but wonder at the prodigality of nature in dealing with such a precious principle. Why should the parent plant be summoned to the prodigious effort of producing millions of living organisms, whereof 999 out of every 1000 are destined to die on the threshold, or, after crossing it, to be smothered in infancy?

It is the old story: the General Manager takes no account of life, whereby we set so much store, and are taught to regard the purposeless waste thereof as sinful. Only for the perpetuation of the race is elaborate machinery provided. Plants are enabled to hold their own in the struggle for existence by producing, either immense numbers of defenceless seeds, or comparatively few seeds in protective envelopes. Some families, like the pines, have it both ways, bearing numerous seeds, and not only provide them with a fence of extraordinary complexity and strength—the cone—but furnish each seed with a membraneous wing to secure its transport by the breeze to a suitable resting-place. As a result, coniferous trees formed by far the most extensive and continuous forests of the northern temperate zone, until they were obliterated over vast tracts by reckless lumbering.

A curious instance occurs in the Californian 'obispo' or bishop pine (*Pinus muricata*), whereof the cones are intensely hard, and are armed with stout, sharp, curved

spines, defying attack from the most intrepid squirrel. The defences, indeed, are almost too effective. So securely are the seeds locked up in the prickly cones, that it is believed a forest fire is the only natural agency that prevails to liberate them. At all events, the cones never fall from the tree, but remain on the branches during its entire life, without opening for many years, the living seeds biding their time within. Moreover, special provision has been made for their incarceration alive. If it were possible for the cones of a Scots or a Weymouth pine to remain on the branches, they would become imbedded in the wood of the branches; but the obispo manages to keep its cones outside all the time. You may see any day a specimen of this ugly, inhospitable tree at Kew, with all the cones produced in the last five-and-twenty or thirty years set in whorls upon its branches.

The bishop pine defends its seeds by main force, as it were; weaker plants resort to various kinds of stratagem. Thus the Brazilian *Cardamine chenopodifolia*, a near relative of the common lady's-smock or cuckoo-flower of English meadows, produces two sets of pods, one in the ordinary way, at the end of the flower stalks, and another set underground. The seeds in the upper pods are as numerous as those usually borne by the common cardamine, and take their chance of finding a place where they can germinate; but those in the subterranean pods are sown by the parent plant in the place where they are meant to grow, reminding one of those Christians, denounced by stern divines, who try to make the best of both worlds.

There is a fair analogy traceable between the spawn of fishes and the seeds of plants, not only in the fact that both are detached from the parent in an inert condition and left to take their chances of development, but in the provision of special means of defence for such spawn or seed as is produced in sparing quantity, and in the defenceless condition of spawn or seed produced in enormous quantity.

As many as 7,635,000 ova have been counted in the roe of a single sturgeon, 3,500,000 in that of a halibut, and 9,344,000 in that of a cod. It is not contemplated that more than an exceedingly small percentage of these eggs should ever arrive at adolescence; they are therefore left absolutely defenceless at the mercy of the ocean currents. On the other hand, the skate lays only a few eggs, which are shed in pairs, each egg being enclosed in a rectangular purse three or four inches long, formed of a substance like leather, or, when dry, of horn, affording perfect protection to the embryo within. I do not know that even the cuttle-fish is able to penetrate this singular defence.

As in the ova of fishes, so in the seeds of plants, the size of the ova or seed is no guide to that of the fish or plant to be hatched from it. The ova of the stickle-back is many times larger than that of a codfish, and it would take a hundred seeds of one of the mammoth trees of Mariposa (*Sequoia gigantea*) to form the bulk of a single peach stone.

Fishes, with very few exceptions, divest themselves of all responsibility for their offspring as soon as the

spawn is shed; and plants, being stationary, are provided with endless devices for projecting their seed or getting them carried as far away from themselves as possible. Very different is the behaviour of most birds, which show an intense solicitude for their fledglings, but regard their eggs with comparative indifference. Nothing is easier than to cause a partridge to desert a dozen or fourteen eggs, which, one would suppose, must have cost her some trouble to produce and have been the source of legitimate pride to her. It does not require very much provocation to make her leave them for good, as if she thought 'Lots more where those came from,' and goes off to lay a second clutch. But, once the chicks are hatched, who so anxious and pertinacious a guardian as she?

A friend has described to me a pretty little drama he witnessed last year. Coming suddenly round the sunny corner of a field, he disturbed a pair of partridges with their brood. The cock bird flew at him and struck his boot repeatedly, while the hen gathered her chicks out of the herbage, being able, apparently, to count them, for it was some time before all of them obeyed her summons, and she did not begin to move off until the last chick appeared. Then she led them away, her mate remaining on guard, from time to time renewing his attack on the intrusive boot until his family had withdrawn to a safe distance. My friend weighs about 12 stone, equal to 168 lb.; the partridge, I suppose, weighs about 1 lb. Imagine the stoutness of the creature's spirit—the warmth of his devotion to wife and family, which nerved him for

unarmed attack upon a monster one hundred and sixty-eight times his size!

IX

Abysmal Ocean

Imagination is powerfully stirred when we reflect upon the vast abyss of the Atlantic teeming with innumerable forms of life in its darkest recesses, and the adaptation to their environment of creatures having their abode under such an enormous hydraulic pressure is among the most remarkable phenomena in nature. Howbeit, deep water does not always imply the presence of living creatures. The Dead Sea may be written off as lifeless, so intensely saline has evaporation rendered its waters, dissipating them at a greater rate than the Jordan can pour them in, so that the surface of this Lake of Sodom is actually 1308 feet below sea-level. But the Black Sea, communicating with the Mediterranean, and so with the teeming Atlantic, might be expected to provide food and lodging for numberless forms of deep-water life. That is not the case, however. The greatest depth of the Black Sea is 1227 fathoms, about equal to the height of the Julier and Albula passes in the Rhætian Alps; but the whole volume, beneath the hundred fathom level, is so densely impregnated with sulphuretted hydrogen and carbonate of ammonia as to be practically lifeless, everything except a few bacteria (which are low vegetable organisms) being poisoned by the fumes. This state of matters has been explained, whether hypothetically or otherwise readers must

decide, as the result of the absence from the Euxine basin of certain animals which act as scavengers in other seas. Creatures dying in the upper and life-bearing stratum of water, and carcasses falling into the sea or floating down the rivers, sink into the depths and speedily generate these poisonous gases. The Black Sea, therefore, presents the spectacle, probably unique in our globe, of an immense mass of salt water, sustaining abundant life in a comparatively thin upper layer, suspended above a profound and silent chamber of death.

X

Birds Beneficial and Birds Baneful

A good deal of fresh light has been thrown of late years upon the habits and propensities of certain species of birds, and there can be no doubt that knowledge about them is both more general and more accurate than it was a quarter of a century ago. It is the exception nowadays to hear of the insectivorous nightjar being persecuted in England in the preposterous belief, almost universally prevalent since the days of Aristotle and Pliny, that it sucks the milk of cows and goats; or of the equally harmless yellow bunting being caught and tormented to death because of the disgraceful tradition, long current in southern Scotland, that this delightful and wholly innocuous bird is of the devil's special brood, intent upon disseminating disease among human beings and cattle. It is good to get rid of such myths as these, which are equally discreditable to our

common intelligence and humaneness; but it is mischievous to run to the other extreme in attempting to whitewash characters of dubious integrity. Some writers even spoil a good case by special pleading on behalf of notorious marauders.

That is the blemish in M. Otto Herman's book on *Birds Useful and Birds Harmful*,[1] which Miss J. A. Owen has translated and done something to adapt to British conditions of crop and climate. For instance, opinion among practical and unbiassed observers of the habits of the common rook is divided as to whether it does more harm or good to the farmer by its mixed diet. My own view is that the balance of good and ill varies in different districts. Much depends upon environment. I have seen immense flocks of rooks streaming into treeless Caithness from oversea during the winter months, alighting in the stack-yards, tearing great holes in the attenuated corn-stacks, in which the snow lodges, and, thawing, destroys a immense quantity of grain besides what these black brigands consume. Some such spectacle as this may have prompted Linnæus, not prone to give misleading titles, to name the rook *Corvus frugilegus*, the corn-gatherer. The late Professor Newton, always inclined to give any bird the benefit of a doubt, could not make up his mind upon the evidence, and pronounced it to be 'eminently discreditable to the numerous agricultural societies of the United Kingdom' that the question had not been settled long ago by systematic observation. No such

[1] *Birds Useful and Birds Harmful.* By Otto Herman and J. A. Owen. Manchester: University Press. 1909.

doubts are allowed to affect the verdict of M. Herman and Miss Owen, who affirm boldly that 'the harm done is outweighed a thousandfold by the good which rooks do in the destruction of insects.' Hm! a thousandfold is a good lot, isn't it?

Still more is one made to pause before accepting the guidance of these writers by their advocacy of the hooded crow, to which they give a place among birds 'chiefly useful.' Now, of all the fowls of the air, probably none is less entitled to consideration than the hooded and the carrion crows. M. Herman admits that the first steals chickens, kills leverets, robs nests, destroys young maize, devours fruit and quantities of young game. But then, says the special pleader, as to chickens—'the good mother-hen flies at the marauder and raises a cry that brings out the good people of the house . . . and the crow has to beat a retreat . . . or run the risk of having a wing broken by a stone, a rolling-pin, or other missile.' And so on through all the list of admitted misdemeanours, against which is to be set the fact that the culprit will eat worms, grubs, insects, and mice. This is the sort of mischievous nonsense that defeats its own purpose, for people who read such flimsy excuses for notorious evil-doers will incline to be sceptical about the virtues rightly attributed to such vigilant police as the plover, the cuckoo, and other soft-billed birds.

All the more strange is it that these writers, who plead for the protection of rapacious vermin, should denounce one of the most valuable and beautiful of our waterfowl.

'When the shoveller comes to a spawning-bed, in its voracity it destroys the young fish in thousands before they are fully hatched. Thus it is a great pest to fishermen, and it is therefore fortunate that this bird belongs to the rarer species.'

This is evidently written from a German point of view, for in Germany and Hungary carp and other coarse fish are bred and fed for the table. No objection can be made to shoveller ducks in Great Britain, for they do not frequent sharp-running streams where trout and salmon spawn.

I have pleaded the cause of the owls so repeatedly in these notes that readers may murmur at fresh reference to a much disputed theme. Nevertheless, fresh evidence should not be lightly rejected, and I propose to adduce some on each side of the question, for so shall we most surely arrive at the truth. Evidence for the prosecution is taken first, and this we have, of a circumstantial, but sinister, nature from Alnwick Castle, where owls have been strictly protected for many years. The chase attached to that ancient feudal stronghold is famous as a nesting ground for woodcocks. During the bygone spring (1909) the keepers found and marked seventeen nests. It was their duty to visit them periodically in order to attach metal labels to the legs of the young birds so soon as they could run. They found that from eleven out of the seventeen nests the sitting bird had been taken away by violence, as was shown by the scattered feathers among the heath and briars. Certain indications about one of the nests seemed to implicate a brown owl as the culprit; and,

sure enough, in a trap which was set beside the half-eaten carcass of a hen pheasant, a brown owl was found in the morning. One is most unwilling to convict of this crime a bird which does such a power of good in killing rats and mice; and the evidence is far from complete. It does not follow, because the owl was attracted to the body of a hen pheasant, that the pheasant was originally killed by the owl; still less that this owl and his comrades had murdered eleven sitting woodcocks. But it must be confessed that the *primâ facie* case is a strong one, and we must not shrink from the conclusion, whatever it may be, that will no doubt be reached through observation in the next nesting season.

Now for the defence, for which I put in the box a competent and trustworthy witness in the person of Mr. J. Whitaker, who tells the following remarkable story in his *Notes on the Birds of Northamptonshire* (Walter Black and Co., Ltd.).

'Many years ago we kept a lot of pigeons, but one spring could never raise a pie. On asking the keeper the reason, he replied, "It's all along of those old owls; they fetch them every night." I said, "I don't believe it." "Well, sir, if you will come at dusk I will show you." We placed ourselves, and soon an owl came and went into the dovecot. "He's gone for one," said the keeper. In a few moments out he came with something in his claws, and was immediately shot. On picking it up we found, not a pigeon, but a big rat.'

The owl in question was a tawny owl (*Strix flammea*), and he died not in vain if his fate serves to warn country dwellers not to trust too much to appearances.

'Do not pull up your stockings in a melon field,' runs a Chinese proverb, 'or you will be accounted a thief.' Here all appearances were against the owl: the young pigeons were disappearing every night: the owl entered their dwelling every evening at dusk: she was shot, apparently *flagrante delicto*, and nothing short of her death could have proved that she was after the rats which had been devouring the young pigeons.

An assize has been sitting lately upon the character of the blackheaded gull (*Larus ridibundus*). The General Purposes Committee of the Cumberland County Council caused the following questions to be addressed to farmers and fishermen within the limits of their jurisdiction and to naturalists throughout the United Kingdom:—

'1. Do you consider the Blackheaded Gull harmful to the fishing or farming industries? State reasons.

2. Have you ever examined the gullet and stomach of this gull? If so, what were its contents?

3. What, in your opinion, is the staple food of this gull?'

These questions were sent out in 100 circular letters, and the answers received showed a preponderance of opinion in favour of the gull, especially in regard to the farming interest. Nevertheless, the direct testimony of persons in a position to speak with knowledge as to the depredation committed by these birds upon the young of salmon and trout cannot be set aside. Of the thirty-four naturalists who replied to the circular, four

pronounced the blackheaded gull to be harmful to the fishing industry, five were doubtful on the point, twenty considered it harmless, and five made no reply to this question. On the other hand, there is the evidence of fishery managers and inspectors to the effect that *at certain seasons* these gulls collect in large numbers, and pick the salmon smolts out of the shallows on their way to the sea. My own experience amply confirms this, and if ninety per cent. of British naturalists were to declare that they had never seen these gulls taking fish, that negative evidence would be perfectly reconcilable with the fact that other persons, with no claim to the title of naturalist, had seen them, season after season, pursuing salmon smolts.

As for the staple food of this gull, the plain and only answer is that there is none. Like all gulls, it is practically omnivorous, depending upon opportunity for the nature of its diet. During the winter months it would be possible to make Albert biscuits or *pâté de foie gras* the staple food of the flock frequenting the bridge in St. James's Park; but by the end of April not one of these birds remains there; all have taken flight to the breeding colonies on distant moors, where the 'staple' is more precarious and less uniform.

Nobody wants to diminish seriously the numbers of these pretty birds, which certainly lend farmers a helping hand; but fishery owners and the managers of fish-hatcheries ought not to be forbidden to protect their own property at critical periods. The report of the committee of the Cumberland County Council founded upon the result of their inquiry, carried on

for thirteen months, seems entirely reasonable and practical:—

'In the certainty of a vast increase in the number of these birds in our local area having taken place, we do not think any harm would be done to the species by relaxation for a term of years of the protection now given it.'

March

XI

Most birds of prey have been brought very low in numbers in the British Isles. There has been a reaction in favour of eagles in late years, because of that nobility of mien and range of flight which, from immemorial time, have marked them out as the emblem of imperial power. In many of the Highland deer forests they are now strictly preserved, and that, strange to say, in the interest of sport, and in order to keep down the grouse. Good deer ground is seldom good grouse ground; many an arduous stalk has been marred by the flurried flight and alarm note of an old grouse cock; so the fewer grouse there are in the forest the better are the deerstalker's chances.

Eagles

But on a grouse moor proper the presence of a pair of eagles is an expensive luxury, as was forcibly brought to my notice one Sunday in March. It was a fine, still morning; the brown hillsides of Strathullie were still heavily banded and streaked with snowdrifts, and the river ran full among the birch woods below. The only bird life visible or audible was here and there a grouse cock rising a few feet on the wing and descending into the heather with comfortable chortle; for the breath of spring was in the air, the bird's fancy lightly

turned to thoughts of love, and it behoved him to call the attention of his observant partner to the one spark of gaudy colour which he displays in the season of courtship—the scarlet comb round the eye.

Suddenly, as I sat there, the moor became alive with flying grouse, scores and scores of them, some hurrying up the strath, low along the heather, others flying at a great height across the valley to the hills beyond the river. 'An eagle!' methought, and, looking up, I saw one dark against the blue sky and floating clouds, circling on broad, rounded wings, over the far-off crest of the hill. A mere speck, yet every grouse on that breadth of moor had detected it at once, sought safety in instant flight, knowing that the eagle does not take his prey on the wing, like the chivalrous peregrine; but, like Leech's French sportsman, 'he wait till he stop.'

XII

Cormorants

In the same strath where I witnessed this scene took place a laughable adventure with another bird of prey. Unlike the eagles and others of the nobler species living by rapine, cormorants show no diminution in numbers, and are probably as numerous now as at any previous period in the world's history. I have seen a flight of cormorants, consisting of four or five thousand individuals, flying from the great lake of Karlé, between Mounts Pelion and Ossa, to the Danube; and as these voracious birds are almost cosmopolitan in habit and indifferent to temperature (so that there be plenty of fish), it is almost futile to

attempt a reduction in the numbers that frequent the shores of the British Isles. Nevertheless, when cormorants, isolated or in pairs, find their way, as they often do, to small lakes or streams where there are good trout, no pains should be spared to destroy them; else, when the birds leave, the lake or stream will remain, but the trout will have disappeared. I have known a cormorant disgorge a rainbow trout of 2½ lb. when falling to the shot. Likewise, in salmon rivers these ravenous pirates are specially destructive in April and May, when the salmon smolts are migrating to the sea. Perhaps that is a reason for cormorants postponing their nesting till June, when all kinds of birds of exemplary character have hatched out.

It is pretty and useful sport to conceal oneself beside a river frequented by cormorants, and to pick them off as they wing their swift, steady flight, always following the bends of the channel; for a cormorant ever likes to have water under his keel, although in these flights he seldom descends to a less altitude than forty feet. Every bird so slain may be reckoned the salvation of untold numbers of young salmon, for a cormorant's daily ration of these delicacies must be reckoned in scores. And the bitter reflection is that the creature's gross appetite would be satisfied just as fully with an equal weight of worthless chub or other coarse fish.

Well, one spring morning two anglers proceeding with their attendant gillies to their beat on the Helmsdale, surprised a cormorant fishing in a short, round, rocky pool, with a fall at the head thereof. The bird dived at once, and it was determined to hunt him to

death. The river was in low trim; the two gillies were set to guard the ford at the foot of the pool, their masters opening fire with stones at short range upon the cormorant every time it came up to breathe. For twenty minutes by the clock the unequal strife was waged—four unfeathered bipeds against one feathered. The issue seemed not uncertain; cormorants cannot rise on the wing from the water as lightly as a snipe from a tussock; the necessary effort takes time, and time was just what the bird's persecutors would not allow it. The inevitable end seemed imminent; the cormorant showed evident signs of exhaustion; his dives became shorter; there was despair in his eye; his long chronicle of crime was about to be expiated.

So, at least, thought the avenging quartet on dry land; when suddenly their earnest purpose was whelmed in roars of laughter. The black rascal, which they thought they had hunted to the very verge of death, reappeared on the surface—with a large eel in its beak! and this, with a toss of its nose in the air, it swallowed in their presence, the relish evidently being heightened by exercise.

XIII

The Yew

People who visit the Highlands only when the hillsides are flushed with heather bloom can have little idea of their exceeding melancholy in winter, when the heather is one uniform deep brown. Melancholy, declared Pope,

'Deepens the murmur of the falling floods,
And adds a browner horror to the woods.'

Highland woods, indeed, consisting chiefly of pine, keep their kindly green throughout the dark months, but there are thousands of square miles without any trees at all, save here and there shreds and patches of wind-tormented birches, or, in steep sheltered glens, little groups of that most Highland of all trees, the aspen—the quakin' asp, as Lowland Scotsmen call it. Even these are disappearing; the storms of successive winters thin away the veterans; and, what deepens the melancholy, no saplings or seedlings are allowed to perpetuate the grove, so closely do sheep and deer nibble away the young growth.

But though trees have vanished from wide tracts, and can never return by natural regeneration, unless browsing animals are fenced off, their names are indelibly inscribed on the map. Opposite the window where I sit writing, Ben Urie rears a snow-covered front. The broad flanks of this hill may be searched in vain for a yew tree, yet its name—*Beinn iubhraigh*—probably commemorates a grove of yews which has long since disappeared. Even had it remained, it would have served little to lighten the melancholy of this mid-March winter, for it is the melancholy aspect of the yew which has chiefly impressed itself upon the poets, and has caused this sombre tree to become as closely associated with churchyards as cypresses—Horace's *invisæ cupressus*—are with Eastern cemeteries.

Even Tennyson, than whom no poet ever interpreted

so unerringly the character of living nature, failed at first to discern much in this tree besides its gloom.

'Old yew, which graspest at the stones,
That name the underlying dead,
Thy fibres net the dreamless head,
Thy roots are wrapt about the bones.

Oh, not for thee the glow, the bloom,
Who changest not in any gale!
Nor branding summer suns avail
To touch thy thousand years of gloom.'

Before addressing the same aged tree a few years later, the bard had recognised that the stir of spring affected it as profoundly as any herb of field or garden.

'Old warder of these buried bones,
And answering now my random stroke
With fruitful cloud and living smoke,
Dark yew, that graspest at these stones,
And dippest toward the dreamless head,
To thee, too, comes the golden hour
When flower is feeling after flower.'

He repeated the picture, later still, in the *Holy Grail*, as if the movement among the sombre, silent yews impressed him more powerfully with the imperiousness of spring than all the violets and primroses of lesser bards.

'Beneath a world-old yew-tree, darkening half
The cloister on a gustful April morn,
That puff'd the swaying branches into smoke.'

After all, I am wrong in accusing the other poets of being blind to all qualities in yew save its melancholy. Sir Thomas Browne was so carried away by his

enthusiasm for its importance in the equipment of the Plantagenet armies as to exclaim:—

> 'The warlike yeugh, by which more than the lance,
> The strong-armed English spirits conquered France.'

Perhaps it was only the exigency of rhyme which prevented him writing 'beat the French,' which would have been accurate enough, witness Crécy and Agincourt; but as for 'conquering France,' their archery did not prevent the English being turned out of their inheritance in that fair land. Our Henry II. inherited Anjou and Touraine from his father, Normandy and Maine from his mother; and held Guienne, Périgord, Auvergne, Poitou, and other provinces in right of his wife Eleanor, the divorced Queen of Louis VII. Only Brittany was conquered by the sword (and bow) in 1165. Perhaps it was the stinting of the supply of yews for bows that loosened the English king's grasp on his French possessions. Certain it is that the stock had run very low long before the year 1483, when, despite the fact that gunpowder had been used in warfare more than a century and a half, Richard III.'s Parliament laid upon landowners the obligation to plant yews for the supply of the king's troops.

Plenty of yews grew in Scotland of old, as is testified, not only by place-names, like Ben Urie, and the indigenous yews still surviving in the islands of Loch Lomond and a few other places, but by the remains of this tree in peat mosses. Yet Scotsmen never learnt to apply it well to its proper use. Ettrick bowmen, indeed, did some effective service in the war

of independence; but it is not recorded that they ever decided the fortune of a stricken field, as English archers often did. It is said that the Scots persisted in drawing the arrow notch to what ladies' tailors call 'the lower chest,' instead of to the shoulder or cheek. For military purposes, the most precious tree to the Scots was the ash, for it furnished staves for those terrible pikes which wrought such havoc among the English chivalry and heavily-equipped men-at-arms at Stirling Bridge and Bannockburn.

So much, perhaps far too much, for the yew historically; to the botanist it is peculiarly interesting as a growth of very archaic type. It used to be classed among the *Coniferæ*, to which its foliage indicates its close affinity; but when the pines and firs took to protecting their seeds with imbricated cones, the more conservative yew was content to go on with its characteristic drupes, which have been recovered from the earliest deposits of the carboniferous age; and the yews are now reckoned as forming a separate order of their own—*Taxaceæ*. Many and many an æon must have passed before fruits exactly similar were shed in the Pliocene beds of Norfolk, where they are found among bones of the extinct elephant, four kinds of bear, and rhinoceros. Unlike some of its contemporaries which have survived—the gingko or maidenhair tree, for instance, and the umbrella pine (*Sciadopytis*)—the race of yews shows no failure of vigour. Give it a chance by excluding browsers and nibblers, and it will scatter its seeds through the agency of birds and raise a numerous progeny. Moreover, although the popular local tradi-

tions of the extreme age of individual trees of this species are to be accepted with considerable distrust, if not absolute incredulity, the yew does possess the property of prolonging its years in a manner denied to any other British forest tree. The central stem may decay—it very often does so; but the shell remains full of vitality, forms fresh growths which swell into new stems; and these, after independent existence for a century or so, sometimes coalesce into one huge trunk, out of all apparent proportion to the height of the tree.

The most remarkable yew groves with which I am acquainted are the Great and Little Yews on Lord Radnor's property near Salisbury. Many acres here are covered by a close canopy of funereal foliage, most interesting and impressive, but not beautiful, and as little resembling a gladsome greenwood as any company of trees might be. More charming, because more scattered, are the great yews on Merrow Down and at Newland's Corner, between Guildford and Dorking, marking, it is said, the Pilgrim's Way to Canterbury. But they, or their progenitors, can scarcely have been planted for the convenience of the Wife of Bath, the Reeve, the Man of Law, and the rest of Chaucer's company, forasmuch as Domesday Book holds record of a great yew forest which grew upon this chalk upland in 1080-86.

Melancholy as the yew must ever be, it must be owned that it does not always get a fair chance. A solitary yew is a forlorn object, pathetic in its enforced celibacy. For the yew is a dicœcious tree, and unless

you give the female plant a pollen-bearing neighbour, she will not rejoice you with the pretty, rosy, sweet-tasted fruits.

XIV

The Age of Birds

The natural term of life in wild animals must always remain a difficult matter for speculation owing to the obstacles in the way of obtaining statistics. Especially must this be the case with birds, owing to their mobile habits; but there is reason to believe that the average term of feathered life far exceeds that of most mammals. Birds have no teeth to lose or loosen; and defective teeth, implying imperfect nutrition, are one of the chief agents in shortening the lives of animals which cannot cook their food. I have already recorded in a former volume the death of a white-tailed eagle at Cairnsmore, which, taken from the eyrie in 1858, expired in captivity, apparently of old age, in 1900, being just forty-two years old.[1] It is uncertain, of course, how captivity may affect the longevity of a bird of rapine. The captive is protected, on the one hand, against the ordinary adversities of a brigand career, famine, and violent death; but, on the other hand, want of exercise, combined with regular meals, the very antithesis of natural conditions, may well be supposed to affect the health of such a bird. The Cairnsmore eagle became totally blind before it died.

The question of the longevity of birds has been revived by the recent death of a cockatoo at Leith

[1] *Memories of the Months.* Fourth Series, p. 244.

Hall, in Aberdeenshire, the seat of Mr. C. Leith Hay. The history of this bird is most remarkable. At the outbreak of the Indian Mutiny in 1857, the late Colonel Leith Hay, commanding the 93rd Highlanders, attacked and carried by assault an entrenched position defended by a rebel force. A soldier in the regiment found within the enemy's lines a large sulphur-crested cockatoo, which Colonel Leith Hay bought from him, put in a cage, and gave in charge to a special bearer. The 'kilties' came in for plenty of hard fighting before the Mutiny was quelled, and the cockatoo was present in every action in which the regiment was engaged. He survived the campaign without a scratch, though his first bearer did not fare so well, for a roundshot took off the unlucky fellow's head. The bird's language on that occasion was said, by those who understood Hindustani, to be a masterpiece of execration.

At the end of the war the cockatoo was brought home to Leith Hall, where he passed a tranquil and fairly blameless life until his death in March 1908. Thus we have it for certain that this bird lived for fifty-one years, to which must be added the unknown period intervening between his birth in an Australian gum-tree, and his capture by Queen Victoria's troops.

Twenty-six years ago, three Canadian geese were sent to me in a present. All three turned out to be females, and I blame myself for never having provided them with mates. They lay eggs in spring, upon which they sit with pathetic assiduity, of course without any effect upon the lacustrine population.

Their age already has probably exceeded the normal span of any British mammal, cetaceans excepted. Year after year, when the pairing season comes round, one of these old maids falls hopelessly in love with a swan. Wherever the swan swims, the goose follows, circling round the object of her adoration, uttering monotonous notes of entreaty, and laying her foolish neck upon the water before him. This goes on for about a month, whereby one would think the swan would become intensely bored; but he never displays the slightest irritation; takes no notice of the antics of the love-sick one, turning himself callously upside down in pursuit of subaqueous delicacies. All this were scarcely worth recording but for a singular parallel to it which I witnessed in April 1908. I was staying in the hotel which overlooks the quaint little harbour of Tarbert, Loch Fyne. My attention was roused by the iterated dissyllabic cry of a Canadian goose. On looking forth, I beheld an exact repetition of the performance I knew so well, and had seen a few days before on my own loch, one hundred and fifty miles to the south. There was a goose courting a phlegmatic swan, and going through the identical gyrations on salt water with which my own involuntary celibate had made me so familiar.

XV

The Ring-dove Disease

Many alarming hypotheses have been put forward concerning the disease which caused so much mortality among wood-pigeons in 1907. It was alleged that authentic diagnosis had

identified the agent with the microbe of human diphtheria. A question was addressed lately in the House of Commons to the President of the Local Government Board by Major Anstruther-Gray, and the answer should convey reassurance to apprehensive souls. It was to the effect that, although investigation had been focused by the Local Government Board upon the nature of the malady, no evidence had been obtained showing that the micro-organism which affected the pigeons was identical with that causing human diphtheria. The results of research into its nature is, indeed, only negative; but what has prevented that research reaching positive conclusion is the entire cessation of the disease among pigeons.

As matter of fact there is nothing new in this epizootic. I can recollect more than one outbreak many years ago. We used to attribute it to a surfeit of beech-mast; but, in the north at least, we had few beech-mast in 1907. During that year, however, the disease did not appear in Scotland, so far as I am aware.

April

XVI

Protective Colour

THE evolution of modern firearms has stripped war of much of its display and our soldiers of much of their finery. Colours cannot now be carried into action and 'the thin red line' is no longer admissible in present day tactics. Scarlet, the traditional national attire of our warriors, is reserved for a 'walking-out' dress, beloved of nursery-maids, and troops going on active service leave in store the tall bearskins and other headgear whereby, under the old system, it was sought to shake the nerves of the enemy. Resort is had to every device to make the fighting man as invisible as possible. Plain khaki is a poor contrivance for that end; raiment of a uniform tint being always more conspicuous than a mottled or striped fabric. Some useful hints on this matter might be taken from certain wild animals. At rifle range, I am assured, a zebra is a far less conspicuous mark than a brown or bay horse.

The present month presents some interesting phenomena in the protective coloration of birds. The plumage of all male birds is now at its brightest and best, while that of the females, whose business is

incubation, remains as inconspicuous as ever. In no class of birds is this precautionary principle carried further than among the pheasants. The contrast between the sexes is remarkable enough in the common pheasant, which, in Great Britain, is now a sad mongrel of breeds; for the original *Phasianus colchicus*—the old black pheasant, as gamekeepers call it—with no white collar to break the splendour of his beetle-green neck, has been irretrievably crossed to its detriment with the Chinese ring-neck (*P. torquatus*) the green Japanese pheasant (*P. versicolor*), and, more lately, with the Mongolian pheasant, a bird of superior weight but inferior beauty to the other three. But for extravagant contrast between the attire of husband and wife there is nothing to compare with the golden pheasant (*Thaumalea picta*). To those who value pheasants only as flying targets, this extraordinary bird may present no attraction, seeing that by no ingenuity can it be induced to behave as a rocketer. But to anybody who enjoys beauty for its own sake, the presence of golden pheasants is a constant source of pleasure. The late Professor Newton pronounced them to be 'only fitted for an aviary,' a singular misdirection on the part of so high an authority, for they thrive perfectly in all parts of our country, breeding freely in the woods, and living in perfect harmony with the common pheasants. Game-preservers are prejudiced against them because of their reputation for pugnacity; but the charge is unfounded; they are peaceable creatures, though the same cannot be said of the more powerful silver pheasant.

For sheer extravagance of brilliant colour commend me to the cock golden pheasant displaying his glories on a sunny April morn, to the feigned indifference of his dingy-coated spouse. It is as if the designer of nature had been put on his mettle to show what he could do to dazzle the beholder by setting a shining gold cap over an orange and black ruff, and throwing an ivy-green jacket upon a scarlet vest and shorts, finishing up with a heavy chocolate tail marbled with black. When the Eastern monarch tried to amaze the sage by showing him all the glories of his palace, he was disappointed that his visitor showed no surprise. 'Sire,' said the philosopher, 'I have seen the plumage of the pheasant!' After that, there was no room left for wonder; but whether it was a common colchic bird or a golden pheasant deponent sayeth not.

[This paragraph shall stand, albeit since it was written, I have been compelled to transfer the meed of beauty from the golden to the Amherst pheasant, which inhabits the sloping woods at Meikleour, Lord Lansdowne's charming demesne on the Tay. The Amherst cock relies not on violent contrast of strong colours, but on exquisite delicacy of tone; the ground colour of his raiment being snowy white, marbled and pencilled with jet, relieved from monotony by a single flash of scarlet in his cap. It is a more refined scheme of decoration than the other, and pity 'tis that one cannot have both species in the same woods, for they are so nearly akin as to mate promiscuously, producing hybrids in which the merits of both are confused and marred.]

The golden pheasant is not quite so nice in his habits as a dandy so gorgeously attired should be. He dearly loves a bit of carrion. In their native country, China, it is said that these birds burrow in graveyards and devour the dead villagers.

The contrast between the sexes is especially striking among polygamous birds such as pheasants. The reason for this is not obvious, for it would seem more important for the perpetuation of the race that the mate of many wives should escape the risks incurred by the wearing of fine feathers than that the life of a bird which would leave but one widow should be preserved by means of inconspicuous raiment. Yet among birds so nearly akin as the members of the grouse group, the plumage of the monogamous red grouse differs not much in male and female, but the polygamous capercailzie cock and blackcock bear no resemblance in plumage to their dusky hens.

Among British waterfowl, all of which are monogamous, there is much variation of rule. Swans, geese, coots, and waterhens exhibit little outward distinction of sex, except in size; but among ducks the drake is always conspicuous by greater brilliancy of plumage, with a single exception, namely, the sheldrake. In this species both sexes display the same showy livery of dark green, white, and chestnut, with scarlet bills and pink feet (beaked and membered gules, the heralds would term it). But then the female sheldrake incubates underground, and therefore has no use for protective coloration. Which circumstance suggests a problem (propounded already, methinks, in these random notes).

Does she nest in a burrow because her feathers are so bright, or is she allowed to wear fine feathers because she nests underground? Howbeit, oyster-catchers have much the same piebald scheme of plumage as sheldrakes (we called them sea-pies in Scotland on that account), the female scarcely to be distinguished from the male; yet she lays and hatches on the open shingle without incurring any greater penalty than awaits duller-coloured mothers.

As there are exceptions to every rule, so are there to that which prescribes greater brilliancy of plumage to cock birds than to hens. The strangest of all occurs in that genus of Lory called *Eclectus*, inhabiting New Guinea and the adjacent islands. These birds are clad uniformly either in scarlet or green; and the distinction is so well marked and constant that ornithologists proposed not many years ago to separate them into two genera—the Red Lories and the Green. Count T. Salvadori met with general incredulity when, in 1874, he announced that, so far from being generically distinct, these two groups were respectively male and female. Stranger still, he found that the flaming red birds were all hens and the green birds cocks, and this he succeeded in proving to the satisfaction of the most sceptical. Since then it has been ascertained that the male bird, in his protective green coat, performs all the duties of incubation; whereas the female, having deposited under him the proper number of eggs, flies away in her gay dress to disport herself at garden parties, bridge, or whatever other amusements we may suppose prevail in Papuan circles.

Of course protective coloration is not a monopoly of feathered animals. The purpose is evident in the adaptation of many mammals, reptiles, fishes, and insects to their surroundings, but perhaps the most curious instance among vertebrate animals is the case of the three-toed sloth (*Bradypus*) as described by Dr. W. G. Ridewood (*Quarterly Journal of Microscopical Science*, vol. xliv.). The sloth in question is not a microscopical object; far from it; but the hair of the creature shows a very complex structure under the microscope. Each hair consists of a core, a cortex or skin, and an outer coat. This outer coat splits, and in the fissures grows a green *alga* peculiar to this situation, and therefore known to science as *Pleurococcus bradypi*. This little *alga* (something between a fungus, a moss, and a lichen) grows so fast in the moist heat of the Brazilian forest as to impart a green coloration to the whole of this large animal, which derives distinct advantage from such an assimilation in hue to its sylvan environment.

The two-toed sloth (*Cholœpus*) enjoys a similar privilege, but this is provided by a vegetable growth different from that on the three-toed sloth. The hair of *Cholœpus* consists only of core and cortex, without the extra layer grown by *Bradypus*. This cortex, or rind, is grooved or fluted longitudinally, and in these grooves springs a growth of another species of *alga*—*Pleurococcus cholœpi*. Drawings of the hairs of these sloths, enlarged, are shown in the sloth case in the Natural History Museum, South Kensington.

XVII

The Borrowing Days

So mutable is our meteorology that, notwithstanding what has been remarked above about the change in the calendar (pp. 18-20), some of the old weather saws hold good notwithstanding the alteration of dates, and the modern March seldom merges into April without presenting the phenomenon known to our ancestors as 'the Borrowing Days.' For example, this year (1907) the first week of April, which, according to the old calendar would have been reckoned into March, was delightfully warm, with nourishing rain; but in the south of Scotland, at least, we rose on Sunday, the 7th, to find a white world, with a blizzard driving before a shrill north wind. March was repaying the debt which it had borrowed from April, according to a tradition the origin whereof lies in unwritten antiquity, but one that long ago found expression in the literature of many lands. Thus in *The Complaynt of Scotland*, composed in the sixteenth century, the Borrowing Days are referred to as something so familiarly known as to need no explanation, although it is doubtful whether many board school teachers of the present day, let alone their pupils, would understand the allusion in the following passage:—

'There eftir i entrit in ane grene forest to contempil the tender yong frutes of grene treis, becaus the borial blastis of the thre borowing dais of Marche had chassit the fragrant flureise of evyrie frut trie far athourt the feildis.'

Sir Thomas Browne, setting himself the ungrateful

task of dispelling popular delusions, included belief in the Borrowing Days among his *Vulgar Errors*; but any salmon fisher who tried to ply his craft in the tempest which tore the early verdure at the beginning of the present April must have realised plausible grounds for the legend. I, at all events, battling with the furious cutting wind in vain endeavour to straighten out a sagging line, kept repeating to myself the verses handed down, with many variants, from one generation of shepherds to another:

'March said to Averil,
"I see three hoggs on yonder hill;
If ye will lend me dayis three,
I 'se find a way to gar them dee."
The first o' them was wind an' weet;
The second it was snaw an' sleet;
The third o' them was sic a freeze
It froze the birds' nebs to the trees.
When thae three days was past and gane,
The silly hoggs cam hirplin' hame.'

Note, that 'hoggs' here are not swine, but yearling sheep.

In Southern Europe a different version of the same story prevails, wherein the borrower is not March, but a certain shepherd, who, seeing his flock in sore jeopardy from the rude winds of March, promised to sacrifice a lamb to that month if the storm were stilled. There fell a calm, and the flock prospered; but the shepherd never fulfilled his vow; so, in the following year, March avenged the default by exchanging three days with April, and has continued to do so ever since. Science shrugs a scornful shoulder at most old 'freits,'

as the Scots call them; but modern meteorologists recognise, if they cannot account for, the fact that in the second week of April, corresponding to the beginning of the month, Old Style, there usually occurs a spell of rough, cold weather such as is typical of March.

XVIII

The Waterside for me! One of the surest sources of zest in enjoyment consists in contrast, as I realised to the full one April morning lately, staggering waist-deep over the slippery boulders which pave access to the famous salmon cast called Linloskin. I had left seething London overnight, summoned by a telegram bringing welcome tidings that the river was in full spate. For the long drought had broken at last; the wind, that had been nailed in the shrill north for a fortnight, had shifted to the south-east and veered through the rainy quarters, sending down the hill burns each with its foaming tribute to the main river; so that there was free course for spring salmon to run through the many perils that beset them in the firth. Could there be more perfect contrast than that between the scene around me and that which I had left behind? No more grinding roar of motor-'buses, no more ceaseless din and jostle of the streets; only the sound of rushing water, the sighing of the westland breeze, the anxious peewit's cry, and the curlew's wilder whistle. Trust me, I was not ungrateful for the change; yet there is always that *amari aliquid* to tinge one's

pleasure—the thought of those toilers who may never share it, save, at most, as lookers-on. 'What no one with us shares seems half our own'; at the same time, if one were to decline all amusement from which the multitude is debarred, that multitude would be no whit the better off. Which reflection leads one dangerously near a treatise on the futility of free fishing and free strawberry beds; which would be a serious matter for your readers.

Linloskin—the frog pool—for that is the meaning of the Gaelic name, with what fitness can it ever have been applied to this powerful torrent, rushing through a wild confusion of trap rock and boulders into the comparative repose of a wide, wind-swept basin, before it is precipitated with renewed tumult into the wooded gorge below? Anything at first sight less suggestive of frogs one could scarcely imagine. It is full three hundred years—nearer four hundred—since Gaelic was spoken in this district, though Gaelic names stick fast to places therein, owing to the notorious difficulty of inventing new ones. Nor could the Gael, albeit of subtler imagination than the Saxon, devise unmeaning titles for localities. Place-names in all languages grow spontaneously out of some incident or natural feature marking the spot, and this Linloskin—this pool of frogs—is no exception; for, on its western side, there is a backwater, fair with white lilies in high summer, but dark and muddy-bottomed now, alive with spawning frogs. It may be of no practical importance to know that when Aymer de Valence, exactly six hundred years ago, to wit, in April 1307, sent Sir Robert de

Clifford up this valley with 1500 cavalry to hunt Robert the Bruce out of the fastnesses of Glen Trool, the frogs were croaking in this pretty lagoon exactly as they are at this day; but angling was ear-marked long ago as the contemplative man's recreation, and trifling *marginalia*, such as this, contribute not a little to his simple enjoyment.

Especially when he catches no fish, as was my lot on this occasion; though I must confess to having met a good one. Anglers are accused of the sun-dial's propensity to chronicle none but the shining hours; let me vindicate the candour of the craft by spinning a yarn of ill-success—nay, of disaster. Linloskin was all too big, and so was the lower river generally; wherefore it was resolved to adjourn to a beat six or seven miles further up, above the junction of an important tributary. To salmon, as to all other objects of venatic pursuit, the motor movement has proved a distinct detriment; enabling the sportsman to transfer himself from place to place with a sudden velocity undreamt of in an older time. So having failed in the main river, we buzzed away to the head-waters, which we found in perfect trim. Exchanging the heavy rod for a handy fifteen-footer, I drew a couple of pools blank from the right bank. The third pool should be fished from a shingle beach on the left bank; but having discarded waders, to reach it involved walking half a mile round by a bridge. Laziness and impatience combined to prompt a trial from the right bank, precipitous and thickly covered with hazel and rowan. A point of rock offered foothold, and the whisper of

prudence, 'How will you land a fish if you hook him?' fell on a deaf ear.

The fish was there right enough. The blue and silver 'bulldog' had made but three or four voyages across the brown water when a pretty ten-pounder rolled on the surface; bending greenheart and singing line told of a salmon securely hooked. Up and down the pool he raced in the usual way; but it took but a few minutes to realise the impossibility of bringing him to the gaff in such a place, so swift and strong ran the current at my very feet. Bushes above, below, behind; the deep river in front; I could not move from my narrow foothold. Ten minutes went by; the salmon was pretty well tired out, but every time he came near the rocks the strong current swept him out of reach. Something had to be done. I sent the gillie to reconnoitre; he reported as possible, but difficult, a passage through the steep thicket to more open water below. Clinging firmly with the right hand to the bushes, and holding the rod in the left I began a painful progress; the fish followed docilely; only one point remained to circumvent, but that was a critical one, for at that point the pool ended in a tumultuous rapid, through which the salmon must be steered to the open water below. Ah! had I but two hands to put to the rod! But my right hand was needed to prevent me falling into five feet of swift water; and my left hand was not strong enough to resist a final rush by the fish as he swung into the rapid. The rod point was dragged into the water; a straight pull on the reel line thrilled me to the marrow; a moment of flickering

hope, and then—ping! the single gut snapped and all was over.

It is bad enough to lose a spring salmon after good play through the hook-hold giving way; it is worse when the loss occurs from broken tackle, even if the angler be not to blame, though there is seldom any valid excuse for him in British rivers. In Norwegian waters such accidents must be discounted as occasionally inevitable. But disaster incurred through sheer pigheadedness—choosing the wrong way when there is an easy and obvious right one—leaves a man feeling as if two or three of his vertebræ had been removed, and none but an angler can understand the mingled sense of shame and despair which is the lasting penalty for a wilful blunder.

XIX

Spring Salmon

Little by little naturalists are adding to the store of ascertained fact in regard to the life history and seasonal movements of the salmon, which have hitherto been the subject of much wild speculation and *a priori* theory. The latest advance, a very definite and important one, has been made during the present year (1907) by means of the system of marking smolts, *i.e.*, young salmon, aged from fifteen to twenty-seven months, descending to the sea for the first time. The delicate structure of these little fish has hitherto proved an obstacle to any effective and permanent method of marking them; but this has been overcome by Mr. Calderwood, salmon-fishery inspector for Scotland, by the use of silver labels attached by fine wire to

the front of the dorsal fin. Each label bears a number corresponding to one in a log where all particulars of date and dimensions are kept for comparison should the fish ever be recaptured.

It has been a favourite doctrine with old fishermen that smolts descending to the sea in April or May, averaging about one ounce each, return in late summer or autumn as grilse weighing from two to ten pounds. This rate of growth seemed incredible on the face of it; but there existed no means of disproving it until the summer of 1906. In the spring of 1905, 6500 smolts were marked with labels in the Tay. Not one was recaptured during that season, but between June 1st and August 20th, 1906, forty of these fish were retaken, varying in weight from 2 lb. 15 oz. on June 1st to 7 lb. 2 oz. on July 28th, showing an average weight of 5¼ lb., the average rate of increase being 6 oz. per month. This seems to prove that the smolt requires a year or fifteen months of sea fare to develop into a grilse.

Still more remarkable are the results of the present year, when three of the 1905 smolts have been recaptured as spring salmon in the Tay; namely, one of 9 lb. on February 18th, one of 8 lb. on February 19th, and one of 9 lb. on February 21st; thus showing that the run of small spring salmon, which is so characteristic of all early rivers, consists of fish which have not re-entered fresh water as grilse, but have spent that stage of their existence in the sea.

XX

Salmon hatcheries —are they useful?

Early salmon-fishing has been disappointing this season (1908) in most rivers, especially in the far north, where spring salmon generally most abound. From the Spey, Dee, Beauly, Brora, and Helmsdale the story is the same—an unusual scarcity of the small class of fish, running from 6 to 12 lb., which, as shown above, have been proved to be salmon re-entering the rivers for the first time, having passed the grilse stage in the sea. Coupled with the general scarcity of grilse in most rivers during last summer and autumn, this dearth of small springers seems to point to the autumn and winter of 1904-5 as a bad spawning season, but it must be confessed that this is not corroborated by recollection of any special characteristic of that mild and open season.

A season like the present is just the occasion for the advocates of the artificial propagation of salmon to produce evidence of the good result derived from fish hatcheries. It is claimed for these, and with justice, that from 90 to 95 per cent. of the ova deposited in boxes under cover are safely hatched into young fry; whereas it is impossible to doubt that a very large percentage of ova spawned in the river beds is destroyed by flood, frost, predatory animals, and other causes. Nevertheless, many experienced fishermen and naturalists remain sceptical as to the effect upon the general stock of releasing fry, even to the number of hundreds of thousands, to run the gauntlet of the many risks

that threaten such tender lives. Certainly anybody who has witnessed the descent of salmon smolts in April or May, which have been naturally reared in the upper waters, may reasonably doubt whether artificial propagation, even on a large scale, can appreciably affect the numbers reaching the sea. These naturally bred smolts are in myriads; they are fish that have so far survived the dangers of youth, being from fifteen to twenty-seven months old, and can only represent a comparatively small proportion of the original produce of the spawning beds. I have myself taken ten fine salmon smolts from the stomach of a single trout which weighed, cargo included, only 2 lb. What must be the mortality among fry turned out of a hatchery to spend from ten to twenty months in the river, and then to pass through ten, twenty, thirty miles, beset by trout, pike, eels, gulls, herons, etc., before they reach the sea, where other forms of violent death lie in wait for them?

If it could be shown that spring salmon were more numerous during this season of scarcity in those rivers which are supplied by well-conducted hatcheries, artificial propagation might be accounted a safeguard against unfavourable seasons, and many persons would be converted to a sense of its value. So far, however, no such result is manifest. On the Helmsdale, for instance, a very prolific and moderate-sized stream in Sutherland, a well-managed hatchery has been in operation for a number of years past, turning out from 500,000 to 700,000 fry every season. On the Brora, equally prolific and early, debouching only ten or

twelve miles south-west of Helmsdale, there is no hatchery; yet both rivers have suffered equally this year from an unusual scarcity of spring fish. So has the Spey, where the Duke of Richmond's hatchery has been in operation for very many years. All this is disappointing to those who have spared no trouble or expense in artificial propagation, and tends to confirm the opinion of those who believe that the labour and money expended on salmon hatcheries would ensure better results if applied to the protection of parent fish on the spawning grounds. The case of trout and other non-migratory fish is different; they remain, so to speak, under one's eye from first to last; but with a far ranging fish like the salmon, whereof the life history is being so slowly elucidated, it must be sadly admitted that there is a total absence of proof that any advantage accrues from artificial propagation to counterbalance the mischief of disturbing spawning fish in the critical act of reproduction.

The statement that a salmon weighing 103 lb. was taken last winter in a net on the Firth of Forth will be received by many with incredulity; but the circumstance is supported by evidence which it is difficult to disregard. Unluckily, as the fish was taken during the close season, it has not been secured for preservation. The only instance of a salmon of similar lordly proportions was reported some years ago from the Vefsen Fjord, Norway. In that case the fish, it is said, carried barnacles on its scales, showing that it was long since it had visited the fresh water.

XXI

Of all the manifold forms and phases of human enterprise, none more surely earns compassionate contempt from disinterested spectators than the proceedings of the field botanist and the unsuccessful angler. Especially so when the pursuit is conducted among people of an unknown tongue. The botanist cannot explain to the practical native the reason of his preference for some diminutive saxifrage or unsubstantial bulb over the more conspicuous ornaments of the local flora. The eagerness with which he peers among wayside weeds can only be construed as evidence of an extraordinary, though probably harmless, form of mental aberration. Judgment of a sterner cast can only be averted from the punctilious fly-fisher by signal success; and that, as most anglers will agree, is not always at his command. The local adept who, knowing how to extract lusty trout from secret places with a bunch of worms, has no inkling of the vast gulf set by the sportsman's code between fly-fishing and bottom-fishing, watches the stranger's proceedings with indifference tinged with curiosity, and pronounces upon failure the verdict meet for a fidgety bungler. **Montenegro**

When, therefore, we set before us the mountain principality of Montenegro as the field for piscatorial and botanical exploration, we courted criticism from both flanks—and we received it—encountering our first failure before reaching the appointed goal. Our Italian pilot and interpreter, who bears the historic

name of Giovanni Battista—John the Baptist—whetted our appetite by his account of the sport to be had in a certain stream in Albania. 'There are trouts so beeg,' said he, holding his hands full eighteen inches apart; 'you shall see them sweem—many, many.' So we dropped anchor after dark on a lovely April evening in the fine roadstead of Avlona, and arranged for an early start on the morrow.

Fishing with the dry-fly is one of the most modern of crafts, having its origin in the necessity for circumventing the abnormal vigilance instilled by generations of anglers into the trout of the pellucid chalk-streams of Hampshire. But it is an art which may be practised to good purpose also in waters where the old 'chuck-and-chance-it' system still holds sway. It has penetrated the Scottish Highlands and the Irish Midlands, enabling the adept to set bright sun and low water at defiance, and greatly enhancing by its delicacy and superior excitement the spasm of success. We thought it possible that, by introducing this novel method to Albanian streams, we might win some applause from unsophisticated natives.

As every Hampshire angler knows, the hours for business with dry-fly are those between ten and two; for it is only at that period of the day that a rise of fly may be expected, saving always the brief festival of the may-fly. At ordinary times, from two o'clock onward until the appearance of the sedge-fly may create an evening rise (most uncertain, feverish, and transient of feasts), not a fin stirs on the surface, which, in the absence of flies, is void of attraction for trout.

In laying our plans, we reckoned upon the Albanian time-table being similar to that of Test and Itchen, and prepared for an early start on the morrow. Ah, but we left out of account that influence which has so often and so powerfully swayed the course of European politics during the last two hundred years—the *vis inertiæ* of Ottoman officialdom. Our passports were presented to the pasha at 7 A.M.; it was high noon before they were returned to us; and with them came a Turkish escort, without which we were not to be allowed to land. It was about one o'clock, therefore, before we disembarked on a curving strand of dazzling white limestone shingle at the head of the bay, where a beautiful stream, about the volume of the Itchen at Abbot's Worthy, and as clear, swept out of a dense copse of alder and willow, myrtle and mastick, to pour its waters into the tideless sea. It was a perfect landscape in the sweet o' the Adriatic year. Red and purple anemones, blue gromwell and periwinkle and golden buttercups, spangled the intense verdure of the glades; yellow iris and tall creamy spires of asphodel lined the river-banks; high on the mountain side to the left hung the Mohammedan village of Vannina, with gleaming minarets and sombre cypress; in the background towered the snowy cone of Mount Elias to the height of near five thousand feet. Nightingales gurgled amatively in the brakes; bullfrogs croaked truculently among the reeds; grey mullet skimmed in shoals through the backwaters; brimstones and orange-tips, Camberwell beauties and swallow-tail butterflies floated among the flowers; locusts lurched heavily out

of our path and basking tortoises lay passively *in* it, drawing in their heads and toes, resigned to the worst. All was light and warmth, colour and checkered shade, active life and indolent content.

Such was the Eden upon which we burst, intent upon dealing death after the manner of our kind. There were plenty of trout fleeting over the sparkling shallows, and some goodly two-pounders lurking in the eddies; but the stream was all too swift and rough for the dry-fly, and the prevailing glare ruled the wet-fly out of court. Indeed it seemed marvellous that fish, having no eyelids, could endure the rays of that glorious sun, reflected from the white bed of the limpid brook.

Presently up came a splendid young gentleman, who turned out to be, not an Albanian chief as his dress and mien betokened, but a *garde-chasse*, who informed John the Baptist that there was better fishing higher up the valley. Thither we hied, therefore, and found the very ideal of water for dry-fly work—a steady, brimming current, winding through flat meadows and cultivated ground. Trout we could see also, and lusty ones; not rising indeed, for there was no fly up, but hanging about in likely places, whence a drop minnow or a lively worm must certainly have extracted them. But, as I have said, we had forsworn such sordid lures, and pinned our credit to the floating simulacrum.

Pinned—and forfeited it; forasmuch as stealth and solitude, two main postulates in dry-fly work, were denied us. The seely angler loveth to move slowly through the meadow, peering along the reaches and

under the banks until a dimple on the surface betrays a feeding trout. Not a hasty movement—not a corner of white handkerchief—not a sun-glint on his rod—must betray his presence to the object of his desire.

We separated, my fellow traveller and I; the Albanian gentleman constituting himself my guide, and a Turkish soldier closely dogging my steps, having orders, it seemed, not to let me out of sight for a moment.

Now it has been my fortune in fishing to enjoy communion with gillies of many nationalities—the taciturn Lowland Scot, the polite Highlander, the adulative and witty Irishman, and the sinewy and gentle Norseman; but never in my wandering had I been offered the services of one so gorgeously arrayed as this Albanian gillie. His noble carriage, handsome features, and generally well-groomed appearance, set off a costume which it would be hard to beat in grace. On his thick crop of jetty curls was poised a dainty little white cap, stiff with delicate needlework; wide, fan-shaped sleeves of spotless linen floated from under an armless jacket, the front of which was of rich blue cloth embroidered with gold braid, the back being of quilted silk *vieux rose*. Loose black breeches clothed him to the knees; white woollen gaiters covered his legs, down to a pair of tasselled, upturned toes. Round his slim waist was a bandolier with forty rounds of ball-cartridge; from his shoulder hung a magazine rifle in a brass-studded sling of scarlet leather.

His method of showing anxiety for my sport (or, as the result proved, for *baksish*) was to precede me to all

the likely places and point out the trout, without the slightest attempt at concealment. The effect upon the fish of his dazzling array, especially of the fluttering shirt-sleeves, may easily be imagined. Nor was this all. My Turkish escort was as keen as he. Idlers, of which there is never any lack about Albanian farms, collected as we went along, until I had an advanced guard of a score of fellows averaging six feet high—a brightly-coloured throng, all chattering and disputing who should be first to find a trout for the *Inglese*. After persevering for a mile or so, I gave up all idea of fishing, and turned to botanising, in which my beautiful attendant could pretend no concern. But, before leaving me, he stepped off the pedestal whereon my fancy had set him. Standing before me, he put out his hand, palm uppermost, opening and shutting his fingers and thumb; while those splendid almond eyes, in which I had read such heroic thoughts, cried Pelf, pelf, pelf! as plain as spoken word. Groping in the pockets of my inglorious flannels, I could find nothing smaller than a five-franc piece—a heavy price to pay for the destruction of all chance of sport; but what could be done? The eyes of a score of armed men were upon me; they had spent an hour or two frightening my trout. I tossed the coin to my magnificent attendant, and we parted company.

Despite this failure, we lacked not fresh fish for breakfast on the morrow. A shot of the seine by starlight at the river mouth produced half a hundred small bass, grey and red mullet, material for an excellent *friture*. By the time we discussed it we were far

on our way to the enchanted Bocche de Cattaro, whence the ascent is made to the Land of the Black Mountain.

The ascent is worth making for its own sake; for although the *horizontal* distance between the Porta Gordicchio of Austrian Cattaro and the Montenegrin frontier is only a few hundred yards, vertically it exceeds 3000 feet. To accomplish the transit you must traverse thirteen kilometres, about eight miles of beautiful road looped across the sheer flank of Lovcen in seventy-three zigzags, without a stiff gradient in its whole extent.[1] To realise the intrepidity and skill of the engineer who designed and wrought this masterpiece, well named La Scala, one has to imagine the appearance presented by this mighty cliff before a pick was struck in it. To prepare an easy way for wheeled traffic over a precipice of 3000 feet was surely a task only to be undertaken in order to gain access to a rich domain. Yet what is the prospect before the traveller on arriving at the windy summit? Turning his back upon the enchanting panorama of the triple labyrinth of the Bocche winding among well-clad mountains, he beholds towards the east a turmoil of naked rocks, bleached almost white in some places, in others weathered to dark grey and russet. Far as the eye can reach there seems hardly growth to nourish a goat, save where, high above the road, the oak wood bristles brown among the steep snows of Lovcen. A drearier landscape there could scarcely be; yet upon

[1] Since this was written a motor car service has been established between Cattaro and Cettinje.

passing the painted pillar that marks the frontier, you feel, or ought to feel, ready to put the shoes from off your feet, as if the very ground were holy. You are entering territory sanctified by patriotic heroism almost without parallel in the history of the nations. If it be the birthright of every Scot to claim share in the glory of three centuries of unequal, but successful, struggle for independence, who shall set bounds to the legitimate pride of the Montenegrin in his retrospect over nearly twice that period, during which this race of mountaineers have stemmed the tide of Ottoman conquest, which not only absorbed all other Balkan states, but threatened to overwhelm the entire civilisation of the West? We Scots had a land frontier of barely threescore miles to defend; but the patriots of Tzerna Gora were girt north, south, east, and west by insatiable foes. Times without number the Scots were succoured in extremity by their French allies; but the Montenegrins had no access to the sea until their independence received tardy recognition in the Treaty of Berlin in 1878, when the port of Antivari was granted to them, followed in 1880 by the cession of Dulcigno.

These undaunted highlanders beheld all their neighbours, one after another, lower the Cross before the Crescent. Servia became a Turkish province in 1459; Bosnia followed in 1463; Albania was annexed in 1467, and Herzegovina in 1476. Montenegro, or the Zenta as it was then called, was bereft of its capital on the Lake of Skodra or Scutari in the fifteenth century; but Ivan Czernovich, gathering his people round him in

the heart of the mountains, founded Cettinje, which remains the seat of government to this day.

In 1516 it seemed as if the end had come, when the Vovoide or Prince, last of the Czernoviches, despairing of the patriot cause, fled to Venice, and left his realm to be overrun by the Turks. For nearly one hundred years thereafter the Pasha of Skodra exacted tribute from the Tzerna Gora, not only in money, whereof there was little, but in young men, of whom there was no stint in quantity or quality, and who were forced to serve in the Sultan's army. In 1604 the tide was on the turn: league by league the Mussulman was ceding territory; tribute was withheld by the Montenegrins, and a vast army sent to exact it was cut to pieces in the mountains. The sternest part of the struggle now set in. A second invasion in 1623 shared the fate of the first, but not before Cettinje was laid in ashes.

At this time the supreme power became vested in the Vladika or Metropolitan of the Greek Church in Montenegro, who, in addition to discharging the functions of spiritual head, undertook those of secular autocrat and military commander-in-chief. A notable step was taken in 1703. During the Turkish occupation many families in Montenegro had accepted the Mohammedan faith. The Vladika decreed that the land should be purged of it. The choice between baptism, exile, and death was offered to every Mussulman, and the alternatives were accepted, it seems, in about equal proportions. A punitive invasion by the Turks failed in 1706; three years later the Montene-

grins, encouraged by Peter the Great, made a counter-inroad upon Turkish territory. Sixty thousand Turks again swarmed across the frontier, but the mountaineers, numbering only eight thousand fighting men, sent them home with the loss of eighty-six standards. And so history kept on repeating itself all throughout the eighteenth century. Time after time the Turks returned in force that should have been overwhelming (their army numbered 120,000 in 1714); they occupied the capital and destroyed the villages, but invariably they paid dearly for a triumph which produced so little spoil, and, in retiring, they generally left half their number behind.

Peter II., of the family of Petrovich, who succeeded to the sovereignty in 1830, was the last Vladika or Archbishop—the last, that is, to rule the country in virtue of his ecclesiastical office. An enlightened reformer, he perceived that internal harmony was the only chance for his country, and exerted himself with singular success to put an end to the blood-feuds, and the almost inveterate system of private *vendetta*, which had been its curse for centuries.

No easy matter this, but the Vladika Peter was no ordinary man. Sir J. Gardner Wilkinson, who visited him in 1847, described him as the very ideal of a warlike chief, six feet eight inches in height, an adept in war, and the spiritual father of his people. 'Though it may appear,' says he, 'a singular accomplishment for a bishop to hit with a rifle a lemon thrown into the air by one of his attendants, this feat of the Vladika adds to the confidence he enjoys among his

troops.'[1] One reform Peter desired, but had not the confidence to attempt—that of prohibiting the immemorial practice of exposing on the tower of Cettinje the heads of Turks taken by his borderers in their perennial warfare. He told Wilkinson that he would fain have done so, but that it would be understood by the Turks as a symptom of drooping patriotism. It was left for Peter's nephew, Danilo II., to effect this. Succeeding in 1851, this Prince proved to be a reformer even more ardent than his uncle. Refusing to take holy orders, he became the first secular ruler of Montenegro since the failure of the line of Czernovich in 1516; thenceforward temporal and ecclesiastical rule remained distinct systems. But the author of this salutary revolution paid the penalty of his life for violating the moral law which his subjects held most sacred. The one wrong which the Montenegrin will never forgive is tampering with the purity of wife or daughter. Prince Danilo, it is said, seduced the wife of Kadich Radovich. In August 1860 he was staying with his Princess at Perzagno, and when embarking in a boat to return thither from his usual evening stroll on the esplanade at Cattaro, Kadich came up from behind and shot him in the back. The Princess received him as he fell, and he died in her arms. Such was the story told to Lady Strangford in 1864; but it is only fair to Danilo's memory to add that another complexion is put upon the crime, and the cause thereof, by the statement that Kadich acted from political motives, being member of a family which

[1] Wilkinson's *Montenegro*, etc., vol. i. p. 472.

disputed the right of the Petroviches to the throne. Certainly the Radoviches fled from Montenegro after the murder, and took up their abode at Zara, in Dalmatia, whither certain of their countrymen had migrated rather than abandon a hereditary blood-feud.

Before his death Prince Danilo had repelled three separate invasions by the Turk; and his nephew, the present Prince Nicola, has proved a worthy inheritor of the diadem. Twice he has led his people to victory, driving the Turkish troops across the frontier in 1862 and 1877; but of more substantial value are his achievements in diplomacy, whereby he won recognition of his country's independence, establishment of the sovereign rank of its ruler, and concession of access to the sea, together with the relatively fertile district around Podgoritza and the Lake of Skodra—all of which had been refused by the Powers through long centuries of conflict.

Without some slight acquaintance with the history of this remarkable little nation, the traveller would miss the whole significance of the land and its people as completely as he could be insensible to the spirit of the Scottish Border had he never heard of Otterburne and Flodden Field. Everybody has heard of Montenegro, indeed; but many people picture it a realm as misty and unreal as Mr. Anthony Hope's 'Zenda'; nay, I have met an educated person who positively believed that it was a South American republic! It is not a land of ease, though the exceeding amiability and scrupulous honesty of its people make a sojourn there a delightful experience. It is poor and bare for

the most part; in the soft valley of Rjeka the frequency of malaria makes summer loitering unwise. Well may Mr. T. J. Jackson exclaim in his admirable work on the Eastern Adriatic: 'A more bleak, inhospitable fatherland has never inspired its sons to shed their blood in its defence.'[1]

And what sons they are! It would not surprise me to learn that the average height of adult males was six feet. A nation of soldiers—a realisation of Lord Roberts's dream for England; every man of them making the most of frame and features by his noble bearing; yet without a trace of swagger, kindly to strangers, courteous among themselves. Here and there may be seen grizzled veterans, short of a leg or an arm lost in the wars of 1862 or 1877, objects of great veneration to the rising generation. One marvels how so hungry an upland can nourish such a race of giants. Their agriculture, except in the infrequent plains, is confined to little patches of red soil—decomposed lime-stone—lodged in pots and on ledges among the all-prevailing grey and white rock. It looks like toy farming, but it is terribly in earnest, and there is no limit to the industry they bestow upon terraced plots, varying in size from the dimensions of a billiard-table to those of a putting-green. Yet the maize, rye, and potatoes reared under these Alpine conditions must be of rare quality, for there is no trace of short commons in the handsome men, the comely maidens, and the

[1] *Dalmatia, the Quarnero and Istria*, by T. J. Jackson (Oxford Clarendon Press, 1887), vol. iii. p. 87. Nobody should visit these countries without careful perusal of this excellent book.

lovely children who abound out of all proportion to the visible means of subsistence.

Ah, but the cattle are not to be envied. In strange contrast to their lordly owners are the plough-oxen, about the size of Kerry cattle, hardly to be recognised as of one species with the lusty, dun animals of Lombardy. The ponies, too, are miserable roach-backed creatures; the donkeys are the smallest I ever saw; only the mules, of which there are not many, seem to make a decent living.

The soldier-like bearing of the peasantry is greatly accentuated by their scrupulously shaven cheeks and chin, according to the custom which, as classical writers have testified, prevailed among the Celtic tribes at the time of the Roman conquest of Britain. Then the national dress, universally worn by men of all ranks, save the bearded clergy, is practically a military uniform. Under a white, full-skirted woollen coat, adorned with silver buttons and gold embroidery according to the means of the wearer, is worn a double-breasted scarlet waistcoat, broadly embroidered with gold. Blue cloth pantaloons, wide and pleated in Oriental fashion, and supported by a silken loin-scarf, come below the knee, meeting white stockings or else white woollen gaiters, fastened at the back of the leg with myriads of silver buttons. Then come a pair of soft-soled white shoes, of which the advantage will become apparent to the tourist who attempts to traverse in hobnails this region of friable limestone. He may get along well enough on the highways, which carry a very fair surface, but for mountain paths, mule-tracks,

or river-banks, English boots are intolerable, unless made with thick felt soles. Æsthetically, the foot-covering is the point in his attire wherein the Montenegrin is apt to be disappointing. On Sundays and feast-days, when he wants to appear particularly smart, he has contracted the deplorable vice of drawing on a pair of what we used to call 'Jemima' boots—black boots, that is, with elastic sides. *Desinit in piscem*—the lamentable effects of these loans from Western civilisation upon a costume otherwise so archaic and exquisitely romantic may easily be imagined. The headgear, happily, remains incorrupt. In winter it is a fur cap, with a loose drooping crown of white cloth, exchanged in summer for the *biretta* or round forage cap, black-bordered, with the Prince's initials worked in gold upon the crimson top. Even the parish priests, who go clad in flowing black gowns, habitually wear this *biretta*, the recognised badge of nationality and loyalty to Prince Nicola: but then the parish priest is often the crack shot of his village and captain of the local company of sharp-shooters.

In cold weather, or when travelling, a notable feature is added to the costume, namely, a dark-brown plaid, streaked with flashes of brilliant colour and edged with a long swinging fringe. Even when the snow is gone and the countrymen leave their thick white tunics at home, appearing only in red waistcoats and blue pantaloons, they carry this flung over the left shoulder, like a Highlander's plaid or a Border shepherd's maud.

The dress is the same for all except priests in design

and colour, though varied in fineness of material according to the circumstances of individuals. In another important respect all are alike. Every man wears round his waist a scarlet leather belt in the front of which is a pouch for pistols and yataghan. The old-fashioned, long-barrelled, silver-mounted pistols are seldom seen now; heavy revolvers — made in Vienna, I believe—are the favourite arm, and the Montenegrin is never without them. The Prince, taking a drive with ladies through his dominion, the coachman and *jäger* on the box of the royal carriage, the Court dandy hanging about the palace, the merchant in his office, the tradesman behind his stone counter, the mason and the carpenter going to their work, the peasant guiding his team of diminutive oxen, the goatherd tending his flock on the hungry hillside —all move with the bag of 'barkers' girt round their stomachs. The rifle is not carried so incessantly as it used to be before the six-shooter came into vogue; but still you may see peasants of the poorer class, not yet able to afford a revolver, with two of the old-fashioned pistols stuck in the pouch beside the great knife, and a rifle slung on the shoulder, coming into market to offer their modest wares—a donkey-load of firewood or a leash of starveling lambs.

Dangerous playthings, one should think, yet in no part of Europe is there less risk of violence or robbery than in Montenegro. To bear arms is a habit ingrained by centuries in a nation which owes its very existence to unceasing vigilance and readiness with arms. The claws of the Turk have been clipped fairly

short during the last five-and-twenty years; but his frontier still girdles the Tzerna Gora very closely. Sultry Skodra still bristles with arms; the only fertile part of the Prince's realm is the plain round Podgoritza, acquired under the treaty of 1878, and that lies as open as ever to sudden raids from the Albanian mountains. Podgoritza itself is a divided town, the clear-flowing Ribnica separating the old Moslem quarter with its snowy minarets and mouldering walls, from the scattered rows of uninteresting houses which form the new and Christian centre of business. Here Montenegrins in red and blue, and Boccesi in green frocks, meet freely and mix amicably enough with Albanians in white woollen jacket and trousers heavily slashed and embroidered with black, and white-gowned Turks with green, pink, or yellow turbans. The medley of costumes makes a picture of which one never tires, amid surroundings as architecturally unromantic as any South African mining village.

Shepherds and goatherds in this district are distinguished from Prince Nicola's subjects in the rest of the province by enormously thick sheepskin coats. The heat was semi-tropical during our stay in Podgoritza, and becomes much fiercer during the summer months; yet these fellows never seem to lay aside this ponderous covering, much the same as a fur motor-coat, loitering about the rocky wilderness, and tramping along the burning highways from sunrise to sunset, in charge of their patient flocks.

In this land of fine men, one naturally feels some interest in the mothers who bear them. Most travellers

who have written on the subject express disappointment in the stature and features of the women of Montenegro; but I was as much impressed by the beauty of many of the maidens as by the worn and haggard appearance of most of the elder ones. The plain fact is that the lot of women in this Christian country is far harder than that of Mussulman wives who are kept in seclusion. The Greek Church, despite it veneration for the Virgin Mary, has done little or nothing to modify the Oriental doctrine of the abject inferiority of woman to man. Consequently all the burdensome tasks are thrown upon women, except agriculture and wood-cutting, which they share with the men. But even that share is not an equal one. If a man goes to the copse to cut firewood, it is his wife who binds the load and carries it home, over the steep paths, on her shoulders. A family attending market always marches in the same order. The father and stalwart sons stroll along in front, smoking the eternal cigarettes, with no burden except their carefully-cleaned arms; behind follow wife and daughters, bowed with bundles, and perhaps leading an over-loaded little donkey. It is not from unkindness: I never heard a Montenegrin utter a harsh word or bestow a sour look upon his womenkind. It is simply the constituted order of things that man is the lord; and he would no sooner think of relieving his wife of a load in the journey, than an English squire would propose to groom his own horse after a day's hunting. Neither the Montenegrin wife nor the English groom would appreciate interference

with their recognised duties. You may see evidence in the street of any village of the status accorded to women. When two male acquaintances meet, they salute each other most elaborately, bowing low and shaking hands; but if a man meets a woman friend, he extends his hand for her to kiss. Naturally, I think, the female part of the population inherit as remarkable a share of good looks as the men; but they marry very young, and hard work soon wastes their figures and hardens their features.

Before marriage there seems to be plenty of pretty love-making, all the prettier to onlookers because of the graceful costumes of the young people. There dwells in memory a charming group in a lonely little *osteria* between Nigosh and Cettinje, where we stopped for a cup of excellent coffee. The low-roofed stone house consisted of but a single apartment containing hardly any furniture except a kind of counter at one end. The smoke from a wood fire in the centre of the floor, before escaping through slits in the tiled roof, had coloured all the interior with black and rich brown. A couple of girls were in charge of the establishment, one of whom was a charming dark-eyed beauty with a bright and delicate complexion. Three or four fine-looking young fellows, bristling with pistols and knives, continued in lively conversation with them while our repast was in preparation. The beauty, at all events, was having a very good time; a couple of seasons in Paris could not have enhanced the witchery of her manner, or taught her to distribute her smiles

and pouts more impartially among her white-coated suitors. I could not withhold a sigh as I thought how brief was her hour of triumph, and how soon her bloom was doomed to vanish after she entered the holy state of matrimony.

The distance from Dalmatia, that land of ornate churches and towering *campanili*, to any part of Montenegro is so short that one is puzzled, at first, by the total absence of architectural remains within the Prince's dominions. The reason for this is twofold. In the first place, the Latin Church, which holds sway in Dalmatia, has always exceeded the Greek Church in the scale and splendour of its places of worship, providing vast naves and spacious side-aisles for processional purposes. Greek churches seem curiously disproportioned to the number of worshippers, presenting no long-drawn perspective or soaring vaults. In detail, they are often interesting, but the general effect is disappointing to the amateur. In the second place, such churches and convents as may have adorned the scattered villages of Montenegro have suffered the same fate as overtook the abbeys of our own Borderland—Dryburgh, Kelso, Jedburgh, and the rest. The tide of war has rolled too often over these rugged hillsides to permit the survival of any inflammable structure or any portable treasure. The very capital, Cettinje itself, can boast no monument of antiquity, except the stump of the round tower whereon it was the custom to expose the heads of Turks taken in that ceaseless war in which neither side ever showed quarter

The Dalmatian Coast

LONDON EDWARD ARNOLD 1909

to the other. Sir J. Gardner Wilkinson gives a woodcut of this tower as he saw it in 1847, with twenty heads stuck on poles above the battlements, the ground all around being strewn with fragments of others which had fallen to pieces.[1]

Thus all the dwellings in Montenegro are devoid of architectural or antiquarian interest. Cettinje is but a rambling, desultory collection of humble buildings; the Prince's palace no more than a detached villa, abutting on the street, with a tiny park behind it, naïvely planted with young spruce and Aleppo pines. Even the country villages lack the romantic beauty of site which gives such a charm to Italian scenery. The Montenegrin ever scorned the security of fortified hilltops and steep approach. He builds his modest home on the most convenient spot, without regard to the positions occupied by his neighbours. Provision of fortified places never was, nor is it now, part of the scheme of national defence. Were the Turk once more to cross the frontier, he would find the little highland nation as faithful as ever to its habit of armed vigilance and its traditional strategy. The old long-barrelled, crutch-stocked firelocks and silver-mounted pistols may have found their way into curiosity shops; but, instead of these, the Prince has equipped his people with modern magazine rifles and heavy revolvers. He has but to issue summons by bale-fire and bugle, flashing and shrilling from summit to summit, and twenty thousand splendid infantry would be at the fixed muster-places within a couple of hours. Every house

[1] Wilkinson's *Dalmatia and Montenegro*, vol. i. p. 512.

would be emptied: women and children would be hurried off into the fastnesses of the hills, and the white-coated army would be disposed by the Prince in the manner which has saved his country over and over again. A column would be thrown forward to meet the invader, but not to repel him. The secret of past successes has been to fall back before the Turks, luring them on through a region where bare, grey precipices repeat each other in endless monotony. There is scarcely a feature to distinguish one from the other—not even that whereon five thousand riflemen lie couched like ptarmigan in the snow, so closely do the weather-stained white coats match the dry lime-stone which forms the whole land surface. Let the enemy be drawn through this pass, and the ambush springs to life in his rear, pouring a merciless fire into the dark column—an easy target, helpless against invisible marksmen.

Even in peaceable times like these one cannot but be impressed by the absolute devotion of this people to their warrior Prince. Heaven help them! should the rule ever pass into feeble, careless, or evil hands. Hitherto—ever since the accession of the dynasty of Petrovich eighty years ago—they have thriven under a series of able, enlightened autocrats, and enjoyed all the ideal benefits of a benevolent despotism, which has taken the unusual line of making easy for its subjects the path to knowledge.[1] Education is free, apparently universal for boys, but not compulsory; and among

[1] Since these lines were written Prince Nicola has bestowed a constitution upon his people. *Prosit!*

the prettiest sights in the country are the groups of merry school-children, well clad, well fed, and particularly well mannered.

Now a final word as to the fishing. That there are trout of enormous dimensions, and that these may be caught by rod and line, we had ocular demonstration. We had the undoubted record of the capture of one weighing 37 lb. by a gallant British admiral, and while we were at Podgoritza, one was taken scaling 20 kilos (40 lb.). We ate fish up to 12 lb. in weight, pink in flesh, and excellently flavoured, but we caught none. Our visit was timed at least a month too early, for in mid-April the snow is still melting apace, and the chief river, the Moratza, is hopelessly milky with glacier mud.

This Moratza, which flows past Podgoritza, is a swift and noble stream about the size of the Tay at Aberfeldy, but very different in the character of its banks. For several miles round Podgoritza extends a level plain, the bed of an ancient lake, of which the gravel-beds have become indurated into *breccia* rock. Through this rock the river has cut its way, forming a cañon with sides from a hundred to two hundred feet high. It is the principal feeder of the great Lake of Skodra, through which is drawn the frontier line between Montenegro and Albania. This lake swarms with a kind of bleak locally called *scoranze*, differing from our northern bleak in that it is most excellent food and maintains an important fishing industry. Upon these bleak feed trout of the same species as those in British and Irish rivers, and thrive so amazingly upon this diet

as to attain proportions unheard of in our waters. In habits also they differ somewhat from their British cousins, having acquired those of salmon. Treating the Lake of Skodra as their sea and feeding-ground, when they are full fed they run up the Moratza, just as spring salmon ascend the Helmsdale or the Blackwater. They are beautiful to look upon, with silvery coats, excellent to eat, and must be noble creatures to catch; but it is heartrending to record the method by which those we saw were taken. The water, we were told, was still too cold to tempt many trout out of the lake. Nevertheless, some of the natives were at work —their angling equipment consisting of an enormously long bamboo, a length of very stout cord, a bunch of lobworms, *and no reel.* When they hook a fish they simply walk away with him, giving no law and allowing no play.

About four miles above Podgoritza the Zeta flows in upon the right bank of the Moratza, passing under a beautiful Turkish bridge of a single soaring span, guarded by a fort, which has been dismantled since the annexation of this province to Montenegro. This river was running clear, the water being of a lovely jade-like green; but even here we plied our craft without reward. Few trout had reached it so early, although a miller near the bridge had killed a seven-pounder on the previous evening. But indeed the heat and glare were so intense as not only to make fishing a penance, but to render it in the highest degree improbable that any fish would move to fly or minnow.

A third stream there is, the Ribnica, dividing the Moslem from the Christian quarter of Podgoritza, the very ideal of a trout-stream, about the size of the Test at Romsey. But to casting angle in this lovely water two circumstances proved highly unfavourable: first, that operations near the town attracted a parti-coloured and constantly increasing crowd of spectators, whose presence ensured the terror and flight of any trout within range; and second, that very few trout *were* within range, by reason of the diligence with which, as we discovered, nets were plied after dusk, in every feasible reach of the river.

As in Albania, therefore, so in Montenegro I have nothing, as an angler, to record but discomfiture; nevertheless, as a reconnaissance our expedition may not be entirely barren of information for others. There can be no doubt that there are the materials for sport of extraordinarily fine quality in the neighbourhood of Podgoritza, but it can only be ensured by preparation which we had not the foresight to make. As I have said, we were a month too early; a month later the heat in the daytime is prohibitive of exertion on the part of men and fishes alike. The hotel in Podgoritza is quite habitable, but the proper course to pursue is to take a camp equipment, to pitch the tents some distance from the town, and to fish early and late according to Norwegian practice, taking rest during the sun-stricken hours. There are some fine pools and streams below the town, but this district is too low and too near the Lake of Skodra to be healthy.

Far better and safer camping-ground may be found higher up the river, between the Zeta and the Moratza; and he must be hard to please who is not satisfied with the scenery, with the noble range of the Albanian mountains to the east, and the myriad crests of Montenegro to the north and west.

The flora of Montenegro seems to have been very imperfectly examined hitherto, and would probably repay a patient explorer. Want of tents prevented our visiting the forest region to the north and north-east of the province. Elsewhere the all-devouring goats gobble up everything except the purple sage, the poisonous spurges, and intensely prickly *Paliurus*, which do their best to deck the stony wastes. In nooks and on ledges, where goats and other browsing creatures cannot come, there are fragments of an interesting and varied flora; but rocks which defy access by goats offer serious obstacles to botanists. Dog-tooth violets, cyclamens, and blue Apennine anemones deck the copses; *Chionodoxa*, and two or three kinds of grape-hyacinths, some crocuses which were past bloom and colchicum which had not come to it, campanulas of several sorts, and an *Eryngo* of beautiful foliage were among the plants which I persuaded the post officials (with much hesitation) to transmit as parcels. Of loftier growths, the most conspicuous were the prickly Dalmatian genista, the yellow *Coronilla*, so common in English green-houses, and the asphodels, yellow and white. But the chief ornament of the woods in April is the flowering ash (*Fraxinus*

ornus), too seldom grown in Britain, where it is perfectly hardy. The beautiful creamy plumes of this tree are detested by flies; wherefore thoughtful drivers gather them and stick them in the head-gear of their horses. Among the mature specimens of flowering ash which I have seen here and there in English and Scottish grounds, I do not recollect one that was not grafted on the common ash. Grafts and cuttings are detestable when seed can be obtained, so I sent for some from that excellent provider, Johannes Rafn of Copenhagen, who never sends the wrong thing, and now I have hundreds of thriving young plants.

May

XXII

Concerning the relative beauty of different kinds of tree, it avails nothing to argue. As many men, so many minds. The Psalmist (or, if we are to lend an ear to the higher critics, that syndicate of authors who provided psalms for King David to sing), gave the first place to 'the cedars of Lebanon which the Lord hath planted.' Virgil preferred the ash in the forest—the pine in the pleasure ground: *Fraxinus in silvis pulcherrima, pinus in hortis.* Mr. MacWhirter, R.A., is never weary of depicting the slender grace of the birch, and recently I was ready to vow he had chosen the fairest tree of British growth. It was in a Highland birch wood; the clouds were parting after twelve hours' rain, and all the plumes of tender young green responded with myriad sparkles to the sunbeams. The stems gleamed dull like oxydised silver; all the verdant carpet was laced with delicate oak-fern and spangled with anemones, primroses, and blue hyacinths, save where breadths of last year's bracken streaked the soaking slopes with golden brown.

Birch and Beech

It were hard to find a lovelier scene; yet memory

took me back to the beechwoods of Roskilde, not far from Copenhagen, recalling me to my fealty to the beech. In a plebiscite of modern tree-growers (a fine subject for next silly season), while the oak doubtless would head the poll for majesty, the prize for sheer beauty would surely go to the beech, for there is no fairer sight in nature than a beechwood in May.

Of beeches there are two types, each unrivalled in its way. There are the beeches that soar aloft on tall, clean boles, with not a branch for forty or fifty feet, whereof you shall find no nobler examples than in Lord Brownlow's park at Ashridge. These have gone through the kindly discipline of close forest, or they never had attained their lordly stature before being ranged in groves and groups. The monarch of that demesne, the king beech, is now no more, having succumbed to storm about the year 1891. Mr. Elwes records that it had a clean shaft of about ninety feet, and after fifteen feet of the butt, which was partly rotten, had been removed, the rest panned out to the tune of 480 cubic feet of sound timber, without reckoning the branches. The royal corpse was bought by a local timber merchant for £36.[1] The queen beech remains to this day, 135 feet in height, without a branch for eighty feet, girthing 12 feet 3 inches at the height of a man's breast.

The other type of beech is the spreading kind, such as has never encountered competition with near neighbours. I stood last week within the compass of one of this sort, the hugest beech in the United Kingdom—

[1] *The Trees of Great Britain and Ireland*, vol. i. p. 20.

probably in the world—that at Newbattle, in Midlothian. Within the compass, I say; from without one beholds only a vast dome of foliage, to the centre of which one must penetrate in order to be thrilled with admiration for the contrast between the mighty central column, carven, as it were, out of grey marble, and the shimmering veil of young leaves. No draughtsman so deft—no camera hand so faithful—as to convey a right impression of such a combination of bulk and delicacy. This giant measures 105 feet in height, and at five feet high its girth is 21 feet 6 inches. The great branches have bowed themselves to the ground and rooted into fresh trees thirty and forty feet high, thus making a perfect grove, with a total circumference of 400 feet.

With those who regard woodland in no other light save as a harbour for game, the beech has fallen into disfavour, because a beechwood always has a bare floor, save on some specially congenial soils, like parts of Buckinghamshire, where the holly grows luxuriantly among the beech stems. But the skilful forester holds beech in high esteem, as the only true shade-bearer among our native deciduous trees, the only one which may be planted under other high wood to form a successional crop. And while it is thus growing it performs a double function of great utility; it screens the soil from drying winds and too rapid evaporation, and at the same time greatly enriches it by an annual heavy fall of leaves. No tree forms *humus*—the true forest soil—so rapidly as the beech; and it does so under conditions of shade which none other will

endure. 'The Doctor of the Wood,' there is no other companion so beneficial to the oak, which, on dry soil, is sure to go stag-headed before its natural term if grown as pure forest. Nowhere can the effect of beech upon oak be better studied than in some of the parks formed within the bounds of the old Forest of Sherwood. The soil there is dry and hot; oaks grown unmixed with other trees invariably show signs of failing vigour after one hundred years; but in company with beech they remain pictures of robust health and growth till twice or thrice that age.

Virgil, by the by, is silent about the merits of the beech, for there is good reason to believe that the *fagus* under which Tityrus reclined was not a beech, but a sweet chestnut. So when Cæsar described the English woods as composed of the same trees as those of Gaul, except the fir and the *fagus*, he probably meant the sweet chestnut; for there is geological evidence to show that beech is indigenous to southern Britain. Pliny, however, clearly meant beech when he wrote of *fagus*; nor can we afford to blame the classical writers for their looseness of expression, seeing that we practise the same ourselves. We often talk of Scots *fir*, though the tree is no fir, but a pine; and of mountain-ash, though the rowan is of far different affinity from the ash.

Beechwood, hitherto little esteemed save by the chairmakers of Bucks, is rising in value. Brushmakers have had to give up German beech for their work because it is not nearly so tough as English beech. When I was a lad, before golf came into general vogue, it was held by experts that crab and pear were the only

proper material for fashioning club-heads withal. Then beech came into favour for that purpose; but nowadays the American persimmon is all the go.

Our beechwoods have been attacked of late by a very destructive parasite, the felted coccus (*Cryptococcus fagi*), a wretched little bug, without legs, but with a sharp beak, with which it pierces the bark and sucks the sap. It is but one twenty-fifth of an inch long, but what it lacks in stature it makes up in multitude, propagating itself indefinitely until the strongest and largest tree perishes under the invasion. Moreover, this pestilent mite comes into the world equipped with a defence against the most potent insecticide, protecting itself with an overcoat of white felt composed of waxy fibres, which no spray can penetrate. Individual trees, it is said, may be rid of it by scrubbing the bark with a hard brush and a strong solution of soft soap; but, needless to say, such a remedy is impracticable in the forest.

If, as I maintain, the beech is the queen of British trees, what shall be said of those who prefer it copper-coloured to green as God made it? *De gustibus*—and all said. The abnormal will always command votaries; but it is sad to see pleasure-grounds marred by the increasing fashion of sticking in copper beeches at all odd corners. People who want foliage of that colour should satisfy their craving at the haberdasher's; or, if they *must* have something abnormal, let it be the purple beech, which strikes a much richer and less metallic note than the copper beech. The most shapely specimen of the true purple beech known to me stands in Osterley Park, near the south-west corner of the

house—a most majestic object in its sombre robe dyed, as it were, in burgundy. The variety is said to have been derived in the eighteenth century from a parent tree, still living in a Thuringian forest near Sonderhausen. But Dr. Augustine Henry tells us, in the great work, quoted above, which he is preparing in collaboration with Mr. H. J. Elwes, that so long ago as 1680 mention is made of three beeches with red leaves growing on the Stammberg in Zurichgau. These trees were popularly believed to have grown up on a spot where five brothers fought each other, and three of them were slain. Those who wish to plant the purple beech should see that they are not supplied with copper beeches.

XXIII

In round numbers, there are four hundred distinct species of British birds, whereof Dr. Edward Hamilton, eight-and-twenty years ago, enumerated nearly one hundred as Londoners, resident or casual, in a list which he published in the *Zoologist*. But his census was a liberal one, taking account of such chance passengers as the falcons and hawks, which sometimes alight on the golden cross of St. Paul's. I do not remember whether he included the kite, once so abundant on the tidal shores of the Thames as to excite the wonder of observant foreigners in the fifteenth and sixteenth centuries, but now so nearly extinct in Britain that probably not one in 500,000 of the present generation has ever seen a kite's superb display of wingmanship. I have already recorded, not without exultation, that on a certain May morning in 1905 a kite was

London Birds

sitting on one of the pinnacles of Westminster Palace;[1] nor was it until the note was in print that I ascertained that this bird was almost indubitably one of three or four which had been released from the Zoological Gardens in Regent Park, and which return regularly to the Zoo for their meals!

Sir Thomas Digby Pigott, a later, but not less vigilant, observer of urban birds than Dr. Hamilton, stated in 1892 that the house-martin built in several parts of London, notably in St. James's Street. I felt some surprise on reading this, for although fairly watchful in such matters, I have never seen martins, swallows, or swifts in the metropolis except on passage. I doubt whether there is enough winged insect life *outdoors* in London to sustain a hungry brood of young martins, though many a distracted housewife knows how flies abound *indoors*. However, in the 'eighties, when I used to ride in Rotten Row, I marked each summer a pair of spotted flycatchers nesting in one of the elms at the lower end of the ride. Do they come there still? Blackbirds and thrushes certainly are more plentiful than of yore in the parks; robins, chaffinches, and tits avoid the dry parts of the town, but remain pretty regularly in the garden round the Ranger's Lodge in Hyde Park.

Food, after all, is the most constant factor in a bird's choice of lodging; witness the crowds of blackheaded gulls which throng London Bridge and the water in St. James's Park during the winter months. Fifteen years ago not one was to be seen there. It was the memor-

[1] *Memories of the Months*, Fourth Series, p. 120.

"Fools! with the fops while we linger here
Then comes in the sweet o' the year."
A. Lang.

LONDON·EDWARD ARNOLD·1909

able frost of January and February 1895 which sent birds into all kinds of unaccustomed places in desperate quest of food. A few gulls found their way into the parks from the Thames estuary; mindful of the hospitality they received, they have returned there each year bringing with them their children's children, until they have become one of the sights of London.

But powerfully as free meals influence the movements of these birds, it is overruled by a stronger impulse in spring. Reluctant as they may be to leave the fleshpots of London, these gulls one and all obey the mandate which drives them into the wilderness to rear their young. No stragglers are allowed; no crafty pair may hang back to bring up a brood where dainties are so easily come by. All must repair to the distant moorland loch where, from immemorial time, the blackheaded gulls have assembled in huge colonies for the primary duty of reproduction. All through spring and summer, instead of hovering idly about the crowded bridges, snapping up supplies from a benevolent public, they must range far and wide for food, hunting grubs on the ploughlands, caterpillars in the heather, and, sad to say, young salmon and trout in the shallows.

It is in summer only that the title 'blackheaded' is even roughly appropriate. The heads of these birds during their London season are pure white, puzzling many people as to the fitness of the appellation. It is only during the season of courtship and matrimony, when the gulls are hundreds of miles away from London, that the feathers of the head become, not black, but dark chocolate.

It was in 1883, when living in a house overlooking the Birdcage Walk, that I first woke with the cooing of a cushat in my ears. No note, at that time, was less familiar amid the roar of London traffic; of all rural sounds, none is more suggestive of the greenwood; nor could I believe my ears till, on looking out o' window, I beheld a real woodpigeon cooing away on a poplar branch to his mate below

Now the Birdcage Walk was not arbitrarily named; it derives its title from King James's aviary, the park and lake having been the home of tamed fowls ever since. (Was not Saint-Evremond appointed governor of Duck Island, the islet in the ornamental water, by Charles II., at a salary of £500 a year? surely the most artless sinecure ever devised.) Well it is to a couple of pairs of Belgian woodpigeons, brought to St. James's Park in 1880 or 1881, that we owe the foundation of the present numerous colony in the metropolis. Naturally among the wariest of wild birds, they have lost all fear of man. I counted six-and-forty one March morning among a lot of house-pigeons, busily picking out the clover crowns from some newly-sown grass in Hyde Park. What though their pink toes are disgracefully defiled, their pearly plumage smirched with smut, their voice has not altered, and one of the most welcome sights in a London square is the cushat's slovenly black nest with its pair of milk-white eggs.

Talking of St. James's Park brings to mind a pathetic story told by Sir T. D. Pigott about a bird in London, though in no sense a London bird, a barnacle goose. Now it is a curious trait in barnacle geese that, although

it is one of the unsolved problems of ornithology where they naturally breed, they will rear their young contentedly in captivity; whereas their near relatives, the brent geese, refuse to lay a single egg if deprived of freedom. Well, some years ago, a barnacle goose made a nest in St. James's Park, lining it with the best down from her bosom, but devil an egg did she succeed in producing. She sat close, however, on the empty nest for weeks, finally quitting it reluctantly about the time that eggs, had there been any, should have hatched. Next spring, this would-be Mother Goose built another nest as fine as the first; but into this one a sympathetic keeper slipped some duck's eggs, which were hatched in due time, and no more exemplary mother could be seen than Madame Barnacle, as she sailed forth with her little fleet of aliens.

The crow family has undergone much vicissitude in London during the past century. It is not many years since Kensington Gardens was hoarsely vocal with rooks, but the last pair bred there in 1892. I believe there is still a small rookery in Gray's Inn, though it is puzzling to understand how the birds can find their way daily to feeding grounds, yearly getting more remote, through the network of wires that covers London so closely. Indeed it is one of the most singular features in urban bird life, how few casualities arise from this cause (no pun, please), especially since the thick iron wires have been so largely replaced by fine wires of copper or steel.

While rooks have been disappearing from London, carrion crows (which are often mistaken for rooks) are

probably on the increase. Hundreds of them nest in such places as Chiswick House, Ken Wood, and Wimbledon Park, and the keepers in Regent's Park have to slay many of them in defence of the eggs of the waterfowl.

I fancy that the latest addition to London birds is the magpie; there is generally one to be seen in the Green Park, perhaps one of a pair brought a few years ago to St. James's Park. It is much to be hoped that he (or she) may find a mate and found a colony,[1] for despite the ill-fame this pied crow has earned from gamekeepers, he may pick up a living blamelessly enough in town, and his irresponsible chatter adds a welcome note of wild life to the turmoil of traffic.

A fourth member of the crow tribe—the irrepressible starling — brings me to the end of my list. Nothing is more remarkable in the general bird population of these islands than the prodigious increase in the number of starlings. When I was a boy the starling's pale blue egg was counted a prize, in the north at least; now, right away to John o' Groats, they pervade every county in thousands. How they all find subsistence is a wonder, yet they always seem in high condition. They are welcome in London, were it only for their fine powers of mimicry, which enable them to treat us to nice little snatches from the melody of professional songsters like the thrush and the lark, with quotations from the conversation of coots and curlews.

[1] Magpies have nested in the Green Park for at least two consecutive seasons (1908 and 1909), but I have not ascertained whether they have succeeded in rearing a brood.

XXIV

Not until this jocund month of May[1] has run half its course will gardeners be able to balance their accounts with last winter 1908-9. The proportion of labels that will remain only to mark the deathbeds of departed treasures is likely to be unusually large, so fierce and searching was the cold of Christmastide and March. The frost, though not prolonged, did excessive damage in districts where its effects was not mitigated by a protective snowfall. We have ourselves to blame for the loss, by reason of our perversity in endeavouring to cultivate in the open plants which will only just endure the capricious climate of the British Isles. Many of our highly-prized exotics are not one whit more desirable than some of our indigenous flora. For instance, there is no yellow-flowered shrub in the world—none, at least, known to me—equal in splendour and affluence of blossom to our native gorse and broom; but familiarity has bred its customary offspring, and the places of honour in our borders are reserved for aliens not always desirable in themselves and often of a crabbed humour. Have not I been taking untold trouble to obtain a spring display of gold from the Chinese *Forsythia*, with the result of a meagre sprinkling of palish yellow bells; while for leagues around, on moor edges, seashore, river banks, and rocky pasture, farmers and peasants have been seizing every dry, windy spell to fire hundreds of

Spring Flowers

[1] Written in western Scotland, where May 1909 was really 'jocund,' as it certainly was not in southern England. The mean temperature of the month was many degrees higher in Iceland than it was in Surrey.

acres of gorse just bursting into bloom? Not that *Forsythia* is to be despised where it will flourish, which is not everywhere; but it is scentless, and gorse is of exquisite fragrance; also it has to be pruned carefully after flowering to ensure a display in the following season. The best variety is *F. intermedia*, a hybrid between *F. suspensa* and *F. viridissima*.

If May brings with it mourning for the good things that will return no more, it makes ample compensation by the fulfilment of hope long deferred, and the enchanting surprises which it has in store for the sagacious amateur. Especially for those who have succumbed to the fascination of alpine plants, a class of amateurs which has been so abundantly recruited within the last quarter of a century. Pioneers in the movement were Mr. William Robinson, who first, in the early 'seventies, explained the virtue of rockwork in the cultivation of alpines as being, not inherent in the rocks and stones, but in the effective drainage and root-shelter ensured thereby,[1] and Mr. Backhouse, of York, who stocked alpines largely and devoted a large section of his nurseries to demonstrating their proper treatment.

Much water has run under the bridges since those early days; nearly every nurseryman of enterprise can supply alpines unknown forty years ago, and many writers have followed Mr. Robinson in extolling their charms. Latest, and dangerously persuasive, comes Mr. Reginald Farrer with two volumes,[2] so luminous in

[1] *Alpine Flowers for English Gardens.* London: John Murray. 1870.

[2] *My Rock Garden*, and *Alpine and Bog Plants.* London: Edward Arnold. 1908.

instruction, so ardent in exultation, so sanguine in defeat, that every reader with a quarter of an acre at his disposal must straightway be drawn into the vortex and begin marking nursery catalogues.

If one who passed that way many years ago, and still pursues it with undiminished zest, may utter a word, not deterrent, of a surety, but cautionary, that word would be *Festina lente!* Begin on a modest scale, rejecting at the outset ambitious schemes of mimic Alps, miniature gorges, and make-believe moraines; which things may follow when the wants of what is to clothe them are well understood, although in truth these sham landscapes seldom bring content. Better a few yards of retaining wall, built without mortar of course, against a bank or sloping terrace—this as a start, capable of indefinite production and modification. Thereby may be provided the cardinal requirements of mountaineers — namely, deep soil to root in, rapid drainage, and rock shelter to retard evaporation.

The novice in rock gardening should learn to distinguish at the outset between what are everybody's plants — that is, plants from which everybody may ensure a satisfactory display, and plants which demand nice consideration in the matter of soil, aspect, and general treatment. He should begin with the easier class, many of which are quite as beautiful as the more fastidious kinds. No difficulty will be found with the rock cress (*Aubretia*), and the eye never wearies of the various shades of mauve and purple, of which that most generous herb supplies lavish sheets and cushions. But the florists have been at work with this family, and

have consummated some execrable results in magenta, which should be rigidly suppressed. There, surely, is no occasion to multiply flowers of this disagreeable hue, which already prevails unduly among natural species.

The yellow madwort (*Alyssum saxatile*) is most commonly assigned as a companion to purple aubrietas, and a fine cheerful thing it is; but if you would avoid monotony—a sin which doth chiefly beset gardeners—try for a change the trailing *Waldsteinia trifoliata*, a near relative of the strawberry. It takes a year longer than the madwort to establish itself, but its golden cataract is worth waiting for. Preferable also to madwort, and less commonly seen, is the beautiful alpine wallflower (*Cheiranthus* or *Erysimum alpinum*) from the 'dals' of Scandinavia. *Cerastium tomentosum* supplies mounds of pearly hoar, but for pure white there is nothing more dazzling than *Arenaria montana*, *Saxifraga Wallacei*, and the variety of *Phlox subulata* called 'Nelsoni.' *Arabis albida* should be avoided; the only member of that rather coarse family to be desired is *A. aubrietioides*, which drapes a steep bank into a charming shower of blush pink; its only fault is in the brevity of its display.

Skyblue of the purest can be had from the easy alpine forget-me-not (*Myosotis alpestris*), which has sported into an exquisite form known as 'Queen Victoria'; but to succeed with the variety *rupicola*, a miniature of *alpestris* in everything except the size of its flowers, requires prolonged experience of the vagaries of plants from high altitudes. It is easy to prescribe drought in winter and moisture in summer: the puzzle

American Wood-lily at Monreith.

LONDON EDWARD ARNOLD 1909

is how to secure such conditions under an Atlantic sky. Gromwell (*Lithospermum prostratum*) and gentianella may be relied on for pure deep blue, at least in gardens to their liking; but although they grow like weeds in some soils, they perish unaccountably in others. All that can be said is that gromwell hates lime and gentianella loves it, though quite capable of doing well without it.

For crimson, one must have recourse to such varieties of the dwarf Phlox as 'Vivid' and to the brighter varieties of *Saxifraga muscoides*—'Guildford seedling' for instance; but scarlet, save in tulips, is only to be had at this early season by the fortunate possessors of soil that suits the brilliant *Anemone fulgens*. What that soil may be defies analysis or definition; in one parish this gay wildflower spreads as freely as in an Italian olive-yard, in another it absolutely declines to make its abode. Personally, I have only found one situation it deigns to accept, namely, the top of a retaining wall, where it gleams like fire among that splendid grape-hyacinth, 'Heavenly Blue.'

All these are flowers of May; not a hundredth part of them, of course, but enough for a 'prentice hand to start with. Untold sums have been wasted and much discouragement entailed by beginning with plants requiring special treatment. Success with these ensures some of the keenest pleasures in horticulture; but the road thereto lies through modest endeavour, ingenuity in baffling the devilish appetite of slugs, vigilance and discretion in controlling the invasion of strong growers

upon weaker ones, and incessant diligence in preventing weeds from getting foothold.

XXV

Falcon and Heron

It was frequently asserted by falconers of old that the heron, when attacked by the peregrine, threw herself on her back in the air and defended herself with her rapier beak, sometimes transfixing her assailant. Modern observers have received this statement with discredit, and personally I have never had an opportunity either of confirming or refuting it; but a friend, thoroughly trustworthy in matters ornithological, has lately seen enough to vindicate the veracity of old writers on falconry. At Holkham, in Norfolk, he was lucky enough in the spring of 1908 to witness the flight of a wild peregrine at a heron. The object of the falcon was to get above its quarry; that of the heron to maintain the advantage; so they both rose to a great height. Time after time the falcon got the upper hand, and promptly stooped; each time the heron threw its neck right along its back, presenting its beak vertically at the peregrine, who sheered off, but renewed the assault several times. Finally the heron made good its retreat to some sheltering trees. The only respect in which this bird's behaviour differed from the traditional manner was that it did not throw itself on its back to use its beak—simply turned its neck.

Talking of wingmanship brings to mind a blunder committed in one of the earlier volumes of this

desultory series. In discoursing of the gannet or solan goose, I spoke of its headlong plunge after a fish as being performed with closed wings. The same friend who watched the peregrine and the heron has called my attention to the error; the gannet's wings are stiffly extended during the descent. The action is similar to that of a paper kite shooting to the ground, and the reason for keeping the wings spread is obvious and twofold. First, the velocity of the descent is rendered far greater than if it depended merely on the gravitation of a feather body. The air acts on the flexible ends of the pen-feathers as a propelling force, just as it does upon those of a soaring gull, which will sail for miles *against* the wind without a single stroke of the wings, which are kept perfectly rigid. Second, in pursuing an object so elusive as a fish, accuracy in steering is of prime importance, and this could not be achieved if the bird descended like a bullet with closed wings.

XXVI

Bad times for Peewits

This has been a lamentable nesting season for peewits [1908]. The harvest of their first laying was as diligently and universally garnered as usual, nor does it appear that there was any shortage of plovers' eggs in the market. In ordinary seasons no harm is done to the general stock by gathering the early eggs, and the rule enforced by most county councils, prohibiting the taking of eggs after April 15th, leaves plenty of time for the birds to lay a second time. No doubt they did so last month, but the wet

weather of March and the first half of April so greatly hindered farm operations that, in the north at least, no seed was sown until the latter half of April. Consequently many thousands of eggs must have been crushed by the harrows and rollers; and as if this were not sufficient adversity, intense frost and four days' snowstorm at Eastertide must have destroyed thousands more. There must therefore be expected a considerable diminution in the lapwing population for some time to come. All the greater reason for urging upon county councils the expediency of prohibiting the slaughter of lapwings at all times of the year. The most effective way of stopping the mischief would be to prevent this most useful bird being offered for sale within the United Kingdom; but this could only be done by Act of Parliament. In furthering such a measure the Board of Agriculture would be acting directly in the interest of farmers.

XXVII

Birds from the Life

At the monthly meeting of the British Ornithologists' Club in April 1908, members and their guests enjoyed one of the most novel and instructive entertainments that can be imagined. The public have learnt, by means of illustrated books and journals, to appreciate the skill and patience with which Mr. Cherry Kearton has applied photography to the portraiture of wild birds and their nests. He has now succeeded by means of the cinematograph not

only in depicting the birds, but in recording their movements in the various scenes of their domestic drama. The difficulties to be overcome were most perplexing, especially when birds had to be depicted in the intimate action of feeding their young, for the slightest noise would alarm the actors and interrupt the action. Such living pictures have to be taken at short range; it was necessary, therefore, not only to conceal the operator in close proximity to the nest, but also to bury the instrument, which makes a considerable noise, in a box with thick packing.

The results obtained are truly surprising. A nest, say, of song thrushes, sedge warblers, or spotted flycatchers, is shown full of sleeping nestlings. Arrives a parent bird, with its mouth full of dainties; up go all the little heads, with beaks wide agape. The parent distributes the food with perfect impartiality; if there is not enough to go round, the other parent arrives presently on the other side of the nest and remedies any inequality in rations. Perhaps the most remarkable group exhibited was the nest of a sparrow hawk, with the parent bird tearing up the carcass of her prey, and giving the shreds of meat to her young, but even that scene, although more stirring, was not more interesting than the pretty action of the mother sedge warbler, who, after she and her mate had fed the nestlings, ruffled her feathers and brooded upon the little things in the most endearing manner before flying off to gather fresh supplies. Another remarkable and instructive feature in each scene was the scrupulous sanitary precautions taken by the

parent birds to keep the nursery clean, bringing home to one the pertinence of the old Scots proverb—'It 's an ill bird that files (defiles) it 's ain nest.'

The scenes of sea-bird life—gannets, puffins, guillemots, terns, etc., were exceedingly beautiful, exhibiting these birds in their native haunts, flying, swimming, diving, incubating, and so on. Moreover, some idea was given to the spectators of the difficulty and risk incurred in obtaining these photographs; for one series showed the operator going over the edge of a vertical sea cliff, roped, of course, and with his camera on his back. It made one hold one's breath to see him swinging in mid-air, warding himself off the rocks with his foot, then being hauled up, until, with an actual sense of relief, we saw him safely landed again on the summit beside his companions. So thrilling—so life-like—were the scenes in this series, that one had no thought, before the close, to bestow upon the marvellous skill of the photographer.

Scarcely less instructive and interesting were some lantern slides exhibited by other naturalists. Mr. Lodge gave a vivid account of his long and comfortless vigil in a hollow tree beside the carcass of a cow, in order to get a snapshot at vultures in Albania. Those who know the great marsh in Montenegro, wherein he spent days before he secured a portrait of the great white heron (*Herodias alba*) on its nest, will be able to appreciate the ardour which inspires those who voluntarily undergo so much physical torment.

Beautiful were Mr. Crowley's photographs of the black-throated and red-throated divers at their nests;

and Miss E. L. Turner's slides, explained by Mr. Pycraft, revealed some very remarkable traits in bird life. The pied wagtail, which built its nest in a flower-pot in a greenhouse, might have been reckoned secure against disturbance from without, for access to her retreat could only be had through a drain pipe; yet a cuckoo marked her ingress, made its way into the greenhouse, and there was the young cuckoo established among the wagtail's brood.

Still more extraordinary was the behaviour of a blue titmouse, as described by Mr. W. Farren. The female was sitting hard upon her eggs; her mate brought her so many caterpillars that she could eat no more, and refused to take any; whereupon he directed his attention to a brood of young hedge-sparrows in a nest a few yards distant from his own establishment, and Mr. Farren succeeded in photographing him in the act of feeding the nestlings of a species so little akin to his own as *Accentor modularis*. The good Samaritan himself did not take a more liberal view on the question—Who is my neighbour?

All right-minded persons love birds, though too many manifest their affection by robbing their nests and making collections of their corpses. Far more creditable and exciting is the pursuit opened out by modern photography by providing means of recording the actions and interpreting the characters of all kinds of wild fowls.

XXVIII

The King of the Herrings

On 23rd May 1908 there turned up on the rocks near Dunbar a fine specimen of the oarfish, or King of the Herrings (*Regalecus glesne*), one of the handsomest, rarest, and most mysterious of British fishes. We claim the creature as British because it is sometimes, at long intervals, cast up on our coasts, but in truth its range appears to be world-wide, for it is known to inhabit the Atlantic, the Indian Ocean, the South Pacific, and the Mediterranean. Specimens from these widely separated seas have been classed by some icthyologists as distinct species, but the recent tendency is to regard them as belonging only to one. The question is a peculiarly elusive one, owing to the impossibility hitherto experienced in obtaining a perfect specimen. The King of the Herrings holds his court in the abysmal depths of ocean, and probably never approaches the land except when suffering from disease or injury. His portrait does not appear among Von Wright's splendid coloured plates in Professor Smith's *Scandinavian Fishes*, for the artist had nothing but museum specimens to work from, and the brilliant metallic skin of this fish, compared by those who have seen it fresh to 'bright tinfoil or white Dutch metal,' turns black soon after death. In the work referred to (vol i. p. 323) there is a large drawing in black and white, partly schematic—that is, designed from perfect parts of different specimens—which brings vividly to mind the drawings which various witnesses have made from time to time of

the great sea-serpent. The body is lithe and serpentine, or ribbon-like; the back is covered along its whole length by a crimson dorsal fin resembling the 'mane' so often mentioned in accounts of the sea-serpent, and the lofty frontal crest is a feature often described to more or less sympathetic listeners by those who claim to have seen that semi-mythical creature.

The mere mention of the great sea-serpent may raise a smile of incredulity, and I am not going to take up the cudgels on either side of the venerable controversy which rages periodically round what is either a myth or a monster; but it is impossible not to note salient points of similarity between the animal we know, and the description of a phenomenon not yet either demonstrated or demolished by modern science.

First, as to size: the sea-serpent is usually described as immense, whereas the oar-fish recovered on May 23rd, 1908, was only 13½ feet long. Of the five-and-twenty specimens reported from British waters during the last hundred years, the largest was that taken in a salmon net near Buckie in August 1884. It measured only 17 feet 1 inch long, but there is no means of knowing to what size animals of this species may attain. Among creatures possessing such a plastic organism as fishes there are many species which conform to no standard of size. The trout, which, in a Scottish burn, may never exceed fingerling stature, if transported to New Zealand waters may grow to a weight of thirty or forty pounds. Adult salmon

vary greatly in size; in some rivers a fifteen-pounder is reckoned a rare prize; in others the angler plies his craft in hopes of a forty, fifty, or sixty-pounder. An oar-fish 17 feet long may bear no nearer proportion to its mighty kindred in the ocean abysses than a five-pound grilse does to a salmon of 103 pounds, which is reported to have been taken in the Firth of Tay during last close season. It may be that only youthful and inexperienced oarfishes venture into comparatively shallow seas, and that larger individuals, wallowing on the surface far from land, may have given rise to the numerous and persistent stories of the great sea-serpent. 'The tales,' says Professor Smith, 'of the great sea-serpent may probably be explained by a variety of different causes—tumbling dolphins, enormous cuttlefish, the basking shark floating and resting at the surface, or even floating wreckage.' But in the cases where the sea-serpent appears with crest erect the explanation seems to lie in the appearance and death-struggles of the King of the Herrings at the surface of the ocean. Of course the oar-fish is not a serpent, but a true fish nearly related to the deal-fish (*Trachypterus*), which in no degree affects the credibility of the evidence borne by many experienced seamen to the existence of a huge marine animal resembling a serpent.

Unluckily some of the external organs of this great fish are so extremely delicate and fragile that they invariably get damaged either in capture or when the creature is stranded, and a perfect specimen has never been recovered. Norwegian fishermen describe the

occipital crest as resembling peacocks' feathers. It consists of two parts, the first composed of five long rays, projecting rather forward like the comb of a Greek helmet, the second composed of nine to twelve rays, each tipped with a fluttering crimson tag, which may be intended as a bait to tempt small fish within reach of a pair of hungry jaws, like a similar apparatus in the hideous angler or fishing-frog (*Lophius*). These rays are merely prolongations of the anterior rays of the dorsal fin, which contains besides many hundreds of shorter rays, forming what has been described as 'the mane' of the sea-serpent. Still more extraordinary is the prolongation of the rays of the ventral fins. Each of these fins, situated close under the throat, consists of one ray, without any membrane, several feet long, terminating in a crimson foliate tag. The only conceivable use for these long rods is that of angling. They have been likened to oars, whence the name of oarfish, but cannot be of the slightest service in propelling the ribbon-like body of the fish.

Altogether, *Regalecus*, apart from the peculiar arrangement of the foremost fin-rays, is a creature of simple design in both form and colour. Except its black forehead and crimson fins, the smooth, tapering body is uniformly covered with shining silver. The specimen taken at Dunbar on a Saturday was exhibited in the Corn Exchange Hall, where crowds of people paid a small sum to see it. Mr. William Evans, F.R.S.E., luckily heard of the capture in time to prevent the fish being carted off on Monday morning for exhibition in

other places, which enabled Mr. P. H. Grimshaw to purchase it for the Royal Scottish Museum. He sent it off the same evening to Rowland Ward's to be preserved and mounted.

June

XXIX

HERE is a pretty note from a lady living in Surrey upon the precocious powers of waterhen chicks. I give it in her own words, for she is entitled to the credit of having supplied the solution of a problem which has puzzled many people—namely, how, when a waterhen or moorhen chooses, as she sometimes does, to build in a tree, the young are conveyed to the water and taught to swim. It seems that no instruction is required:—

How young Waterhens learn to swim

'The moorhens which always come to nest in our pond have chosen this year to build in a branch of the cypress that overhangs the water, twelve feet from its surface. My sisters and I often speculated how the young birds would get to the pond, so when one was seen swimming about one morning in July, we, with a niece and our gardener (five people in all), went to watch the nest, where, one after another, six little moorhens could be seen scrambling up on to the edge and falling over into the water, to disappear for a second and then paddle to the bank. I caught one, and think, from its general appearance and the weakness of its legs, it can only just have emerged from the egg. The parent birds called to their young from the water all the while, and collected them with care after their descent; then

taking them to an island and hardly allowing them to be seen for the next week.'

XXX

Squills

Those who have visited Kew Gardens during the late uncertain spring (1907) do not require to be told what is a squill, for if they did not know it before, their attention is sure to have been drawn to the lovely little blossoms of brightest blue which sparkled in the borders and in the grass when 'the borrowing days' were at their wildest, and the label will have informed them that they were admiring the Siberian squill. The name smacks of the pharmacopœia; howbeit, the plant which produces the drug, though classed as a squill, has now been rechristened *Urginea*; at least it was so a few years ago, but the decrees of modern classifiers are not on the model of the Medes and Persians, and to follow their changes taxes the ordinary citizen's nimbleness not a little.

The squills remain a numerous family without *Urginea*, whom they have lost, differing from hyacinths only in this, that the six segments of the blue perianth are divided from each other, instead of being united in a bell, as in the hyacinth. For this reason the blue wood hyacinth (you English people call it the bluebell, but north of the Tweed we only recognise harebells as 'the Bluebells of Scotland')—the blue wood hyacinth, I say, has been taken out of the genus *Hyacinthus*, whereof its appearance and habit seem to warrant it a member, and added to that of *Scilla*,

from most species of which it is very distinct in aspect. Such is the kind of snare which modern classification spreads for the amateur. Besides the wood hyacinth, the British flora boasts of two other squills — the autumnal squill and the vernal. About the first, the present writer had best be silent, never having seen it, for it only appears in some of the southern English counties, after ranging through the rocky places of southern Europe, from the Caucasus to the Sierra Nevada, and so up the west coast of France, having just established a footing in perfidious Albion, when its retreat was cut off by the formation of the Channel.

But the other, the spring squill (*Scilla verna*), is a joy at this season to dwellers on our western seaboard. It is of lowly stature, its leaves closely spread star-wise on the ground, and its short, close spikes of pale blue flowers just raised from one inch to three inches above the wind-swept turf of the sea-cliffs. What it lacks in height it makes up in multitude, growing in far-spreading colonies like its woodland cousin, and imparting a modest grace to the stunted herbage.

We ransack all the ends of the earth for exotics to deck our parterres withal, pay long bills for bulbs from foreign parts, and no doubt get very good value for our money; but it is amusing sometimes when a visitor to one's garden pauses to admire a flower which he does not recognise, though it happens to be a native, and not a rare one. The spring squill is one that I have never seen in any private garden save my own. It invariably attracts attention when in flower, for a few bulbs dug up years ago have spread into large clumps, and the

flowers, encouraged by shelter, rear themselves to four or five times the height of their brethren on the coast only half a mile away, and flower a full month earlier. Humble though the spring squill is in stature, its subterranean parts are considerable. One has only to set to work digging it up to find that it is a far larger plant than appears. The bulbs lie at a depth of fully six inches below the surface, and it is no easy matter to get them out without breaking the underground stems.

What secret medicinal properties may lurk in British squills we are not told; but squill has been prescribed as a drug from earliest time, and modern chemists have discovered no fewer than three active principles in the root of *Urginea*, namely scillipicrin, scillitoxin, and scillin. Greek physicians of old 'exhibited' squill under exactly the same name—*σκίλλα* —and for the same purpose, for relief in bronchitis, as our own doctors do.

Very nearly allied to the squills, separated from them, indeed, by botanists merely because its flower is never blue, but always white, is the Star of Bethlehem, which, though not a native of Britain, has made itself thoroughly at home in many parts of the country. Now the scientific name for this plant, *Ornithogalum*, is connected with an amusing little mistranslation, or, rather, with too literal a translation, of the Hebrew text. It represents the Greek *ὀρνιθόγαλον*, meaning 'bird's milk,' because the Star of Bethlehem, or a kindred species, whitens the plains of Syria with its blossom. The Jews had a less poetical but equally symbolic

name for it; they called it 'dove's dung.' It must have puzzled many persons to read in 2 Kings vi. 25, that the citizens of Samaria were so hard pressed when Benhadad besieged them that 'an ass's head was sold for fourscore pieces of silver, and the fourth part of a cab of dove's dung for five pieces of silver.' The ass's head might be worth the money in the circumstances; who knows? it might make a passable soup; but dove's dung—to what culinary or nutritive purpose could it be turned? I speak with all possible diffidence as becometh one wholly unlearned in Hebrew; and I note that the revisers of the Old Testament have let the passage stand with only the alteration of 'cab' to 'kab,' which scarcely touches the fringe of literal inspiration. But surely the sense is that the bulbous root of *Ornithogalum* was the substance vended, no great delicacy at any time, one should say, but a trifle more satisfying than guano!

XXXI

Two good Naturalists gone

Were anything wanted to deepen the gloom of a bleak, dripping Whitsuntide (1907), following upon the heels of a late inclement spring, nature-lovers would have found it in the passing of the two guiding lights in natural science—Dr. Maxwell T. Masters and Professor Alfred Newton, foremost workers in their respective fields. Dr. Masters was the first to go, his death coinciding with the close of the Temple flower show, the only one in the series of twenty great annual festivals in which he

did not take an active part. With the contributions of Dr. Masters to botanical science and literature, specialists of all nations are familiar; as editor of the *Gardener's Chronicle* for more than forty-one years he maintained weekly intercourse with a very large circle of readers, many of whom learnt to avail themselves of his profound knowledge of plant life, and his ready good nature in imparting the same. During his editorship fashions in horticulture waxed and waned. The mid-Victorian era of bedding-out yielded to a reaction in favour of perennials and old-world flowers. Dr. Masters, eager and sympathetic towards every phase of his favourite craft, managed to hold an even balance among them all, never condemning any system merely because it had fallen out of vogue, yet always ready to welcome new methods. He made the *Gardener's Chronicle* a valuable storehouse of horticultural and botanical lore.

Only a few days after Dr. Masters' death came the news of Professor Alfred Newton's to sadden us. He had long held a place in the very foremost rank of ornithologists; the services he rendered to science are far too important to require enumeration here. Had he never published anything but his *Dictionary of Birds* he would have been entitled to enduring gratitude on the part of that large and increasing number of persons who take a keen interest in bird life, and desire to supplement a superficial acquaintance with different species, and more or less casual observation of their habits, by access to sound information. For such persons this dictionary is the very thing; it is

amazing what an amount of learning and suggestion is therein presented in compendious form—in what plain, vigorous English the surest information is conveyed.

No one knew better than Newton the indispensable functions of museums; none better understood their limitations, and how laboratory teaching must be barren without open-air study. He loved the living creatures which he studied, and waxed eloquent in denouncing the destructive activity of the mere collector. But though he had a warm heart for the birds, he had an unspoken contempt for sentimentalism. When the Bill of 1893 for amending the Wild Birds' Protection Act was in preparation, we, who were in charge thereof, naturally consulted Professor Newton. One of the provisions of the Bill was intended to protect the eggs of desirable species, as well as the birds that laid them. Newton declared that to attempt this was preposterous. 'How can a magistrate or a policeman know one egg from another?' said he. 'I have given a good deal of attention to birds and their eggs, and I declare that I never would swear to what species any egg belonged, unless I had actually seen the bird lay it!'

XXXII

Parental devotion of Birds

As an instance of the usefulness of Newton's *Dictionary* to amateurs, take this little incident, which occurred while its author was on his deathbed. Making my way, rod in hand, along the tussocky shore of a Galloway trout

loch, I flushed a male reed-bunting from a nest containing five eggs. Feeling uncertain whether it was a recognised habit among the buntings that the male should take its turn at incubation, when I got home I turned up 'Nidification' in the *Dictionary*, and had my doubts solved by the following passage:—

'Incubation is performed, as is well known, by the female of nearly all birds, but with most of the *Passeres* and many others the male seems to share her tedious duties, and among the *Ratitæ* (Cassowary, Ostrich, etc.) apparently without exception the cock ordinarily takes that office on himself.'

In the case of the reed-bunting there could be no mistake about the sex, for the cock bird is easily distinguishable from the hen by his jaunty black velvet cap and snowy collar. As a male animal myself, I felt a reflection of credit from the behaviour of this bird, for not only was he sitting upon the eggs in a most exemplary manner while madame was enjoying an outing, but he committed the noble and time-honoured fraud of shamming cripple in order to lure me away from the nest, thereby adding one to the very brief list of birds which I remember to have seen going through this performance—namely, grouse, partridge, pheasant, wild-duck, and night-jar. In the first four of these birds it was always the hen; the sex of the night-jar was uncertain, though I assumed that the protective impulse was maternal. But here was a gaily-dressed cock bunting just as anxious as the most devoted mother to run risk of capture or injury in order to avert danger from his nest. I have come

across only one other recorded instance of this behaviour by the male bird.

'In 1883,' says Mr. C. A. Allen (*Nineteenth Century*, April 1893), 'I met with a brood of young plumed partridges in Oregon. The male, who had charge of them, performed the usual tactics of feigning lameness, and tried his very best to draw my attention from the young, and, seeing I paid no attention to him, showed a great deal of distress. The young scattered promptly in all directions, and the majority were most effectually hidden in an instant.'

The device is hardly ever resorted to, except on behalf of the brood; but I once saw a hen grouse make prolonged pretence of being crippled in order to protect her mate, a robust old cock. This was in Sutherland, in the month of February, long before there were any young birds hatched. The cock lay so close that I very nearly trod upon him. When he was flushed the hen bird took to wing at once, and flew after him across the river.

Mr. Lloyd Morgan, in his interesting volume on *Habit and Instinct*, devotes several pages to consideration of this remarkable manifestation of parental solicitude. Is it, he asks, a truly congenital and instinctive habit, or is it an intelligent action on the part of individual birds? He cannot answer these questions, wherein, says he, there are materials for a pretty dispute between transmissionists and natural selectionists. For my own part, I incline to the view that the action is purely intelligent and conscious; as much so as the wariness which wild birds acquire in the presence of the arch-enemy Man, enabling them

to judge with surprising accuracy the range of modern fowling-pieces. This can only be explained as the intelligent application of observation and experience, both of which may be transmitted from parent to chick. Dr. W. L. Ralph has described how the American ground-dove, when driven from its nest, 'will drop to the ground as if shot, and then flutter around as if wounded, to try and draw the person disturbing it away from the nest.' The suggestion is that this habit has been acquired by observation of the effect of firearms, a purely intelligent process.

In the behaviour of certain birds may be recognised discrimination, which is one of the higher functions of intelligence. Yesterday, before breakfast, I passed within four yards of a thrush busily engaged in dragging its breakfast, in the shape of a luckless earthworm, from the moist turf of the lawn. The bird desisted as I approached, cocking a curious eye at me. It turned round as I passed, keeping its head towards me, and I could plainly read its thoughts. 'Now, I don't suppose this old buffer means to be nasty; he is only worrying over his silly flowers. Still one can't trust that kind always; I 'd better keep an eye on him. My mother told me that her grandfather had had his neck wrung by a creature just like that.' Then, as I moved off, the bird resumed its business of ragging the worm.

Very different would have been the behaviour of the same bird in the outskirts of a village in France, where *grives* are so much prized as a delicacy.

XXXIII

On the miserably cold and wet Saturday and Sunday which finished up one of the most cheerless Junes on record (1907), the woods of Osterley, near Brentford, resounded with the song of thrushes and of the less vociferous blackbird. A cuckoo, also, had managed to keep his voice unimpaired, and was using it freely. All this is very unseasonable; in ordinary seasons the summer silence sets in before the end of June, for it does not seem to be any part of the father bird's duty to instruct his offspring in music.[1] The nestlings must pick up the proper tune in the best way they can; and it is a puzzle how on earth a young cuckoo learns the orthodox note, seeing that he never meets his own father—at least he could not recognise him if he did. The song of most birds seems to be indissolubly connected with courtship and the honeymoon. It is supposed that the vocal cords of a male thrush, for instance, which, as Mr. Whichell has recorded, sings continuously for sixteen hours of the twenty-four, acquire peculiar toughness and resonance during the breeding season. That seems to be in perfect keeping with the superior splendour of bridal array, so well marked in many species, though not so in the song-thrush; but it is not easy to understand how this hypothetical strengthening of the larynx for the nuptial occasion is prolonged to meet the exigency

The evil Summer of 1907

[1] Both blackbirds and thrushes were vociferous in the same woods of Osterley, 17th-19th July 1909, long after their Scottish fellows had ceased to sing.

of *secondes noces*. Those blackbirds and thrushes of Osterley were singing presumably because their mates were sitting on a second set of eggs. Are we to suppose that they could sing if they chose at all seasons of the year, but only do so in order to please their wives?

The cuckoo's is a still more perplexing case. Everybody knows that his voice generally cracks before the end of June, his mouth then being chronically full of caterpillars. But supposing it to be in his power to prolong his simple melody in order to manifest sympathy with his spouse, so long as she is in an interesting condition, how does she happen to be in that condition for the second time in the same season? The thrush, beholding her clay-lined nest flooded with rain-water, her blue eggs addled, or her nestlings cold and dead, sets gallantly to work to build another and to rear a second brood. But Madame Cuckoo belongs to the smart set—*genus invisum*. Having deposited her eggs in various humble dwellings, she flies off to amuse herself; I myself have met her at Sandown races, and at garden and water parties. It would be interesting to know whether she receives bulletins about the welfare of her progeny; for if she does not, what prompts her to farm out a second lot of babies? And that she is doing so seems to be indicated by the prolonged loquacity of her mate.

Birds and butterflies, being the most conspicuous forms of wild life in this country, attract more attention than any other creatures from amateur naturalists. Butterflies are lying low, very low, until the prevailing meteorological tyranny be overpast; but birds are just

as much in evidence as ever. Yet how much there is that we do not know about them, and how hard it is to find out more! Cardinal Newman, indeed, declared that we knew less about animals than about angels; but his Eminence probably would not have denied that we enjoy more frequent opportunities of observation upon the former.

I may add that, having travelled straight from Brentford to Galloway, leaving birds in full song in the south, in the north-west not a note is to be heard. Blackbirds, thrushes, cuckoos in plenty; but not one of them all disposed to sing a stave. Yet second broods are in progress, for to-day—July 8th—I set my foot (luckily lightly) on a partridge sitting on twelve eggs. She flew off with a great splutter, but not far, and returned towards the nest before I left the ground.

Most of the early broods of partridge have perished in the heartless cold and wet, and there will be few young birds fit for the bag in September; but if hot weather, whereof we have indications, sets in now, there will probably be a good crop of second brood coveys.[1]

The effect of the rainfall, almost continuous since May 1st, upon vegetation in field and garden has been very remarkable. On light, warm soils, too apt to burn up in ordinary seasons, blossoming has been prolonged in a very delightful way. Seacoast flowers — thrift, stone crops, blue scabious, crimson geranium, yellow rock rose, make a more delightful display than ever, owing to the rich verdure surrounding them, which

[1] The second broods fared no better than the first, for the wet and cold continued till the end of August.

usually gets parched before they come into bloom. Among these lowly herbs the stately spires of foxglove and sulphur yellow mullein rise like torches; while the shingle just above tide-mark is gay with horn poppies and woodvetch.

In the garden rhododendrons of the finer sort have had a fine innings. A large bush of *R. cinnabarinum* has been in flower for fully two months, opening a long succession of its scarlet and yellow trusses. The tube-like blossoms are of the waxy consistency of a *Lapageria*, and shower honey when lightly shaken; but let nobody rashly taste that nectar, for Sir Joseph Hooker, when he first discovered this beautiful bush in the Himalayas sixty years ago, warned us against its poisonous properties, which, he said, were fatal to goats and cattle browsing on the foliage. The young leaves of this rhododendron, of a pearly glaucous hue dotted with innumerable glands, are very pretty objects under a magnifying glass.

XXXIV

Rural Place-Names

There is something that appeals strongly to the imagination in the persistence of place-names, especially those which retain impressions derived from primitive landscape or from animals, trees, and herbs which once gave it a specific character. For there is nothing more certain than this, that every place-name 'growed,' like Topsy. If it cannot be said that it surpasses human ingenuity to invent a combination of meaningless syllables and

fix it irrevocably upon a given spot of ground, at all events it is not done, and never was done, by any race of men. To indicate a fixed rural locality, men have recourse automatically to some feature, quality, or incident, distinguishing that locality from another—the green meadow, the horse hill, the ash ridge, and so on. In urban topography, of course, the case is different; streets and houses are named from historical, literary, or personal association.

Rural place-names are exceedingly interesting owing to their permanence. Once a locality has acquired a distinctive name, it is not worth anybody's while to coin a new one for it; probably if he did it would not stick. In none of our populous centres have natural features been more completely obliterated than in Glasgow. Leigh Hunt once said of London that it was impossible to find any street from some part of which you could not see a tree. In Glasgow the difficulty consists of finding any street whence a tree is visible; yet still, in the very heart of that grimy hive, the line of wharves and quays below the bridge bears the name Broomielaw—the bank of broom—recalling the distant day when St. Kentigern built his cell on the *glas achadh*—now Glasgow—the green meadow beside the pellucid Clyde.

Still more interesting are the names commemorating wild animals long since extinct in these islands. Who can tell how many centuries have passed since the brook that flows between Wimbledon Common and Richmond Park was haunted by beavers? It is still called the Beverley Brook, and doubtless the Anglo-

Saxon settlers had good cause to name the place 'befer lea' — the beaver meadow. Beverley in Yorkshire, Beverburn or Barbon in Worcestershire, Beversbrook in Wilts, are a few out of many ancient haunts of an animal which still survives in the Elbe, identical with the North American beaver, and of which bones and skulls have been exhumed in many English and Scottish counties. In Welsh this animal was known as *llostlydan*, or broad tail, and was specially abundant in the Teifi when Giraldus Cambrensis visited Cardiganshire in 1188. Another name for it was *afange*, or *afanci*—the river dog, but this term seems to have been interchangeable with *dyfrgi*—the water-dog or otter.

Long after the last beavers had been hunted down for their valuable fur and the glandular secretion so highly prized by primitive physicians, many parts of the British Isles continued to be infested with wolves. King Edgar (958-975) has credit for having been the first monarch to take systematic measures for clearing them out, which he did, over a great part of the country at least, by commuting the money tribute due by the Prince of North Wales into a tale of 300 wolves yearly, to be delivered at his palace in Winchester. To this day that ancient building bears the name of Wolvesey—*i.e.*, wolf island—standing as it does amid the labyrinthine branches of Itchen. Plenty of other English places remind one of the shepherd's scourge. Wolmer Forest, for instance, stands for Wolfmere, or Wolfmoor; but some of the names, such as Wolfhamcote in Warwickshire, probably denote the dwelling-

place of a man called Wulf. In Scotland, where wolves did not finally disappear till well on in the eighteenth century, there remains abundant testimony of their presence. The commonest Gaelic name was *madadh*, pronounced 'maddy' or 'maddoo'; and inland names like Blairmoddie, Craigmaddie, Claymoddie, Drummoddie may be safely interpreted as the field, the crag, the hole, and the ridge of the wolves. But whereas the Gael has a puzzling way of aspirating the initial labials in the genitive case, the word sometimes becomes indistinguishable from 'bada,' a boat. Thus one cannot affirm confidently whether Slouchavaddie, on the coast of Galloway, means the gully of the boat or the wolf's den. The Wolf's Slock is a ravine in the hills not many miles inland, and all through the Border country one comes across Wolf Cleuch, Wolfhope, Wolflee, etc., denoting the ancient lairs of these creatures.

Much uncertainty prevails as to the latest date to which wild boars survived in the British Isles. In Anglo-Saxon and Norman times they were universally distributed, being among the commonest beasts of the chase. It is not surprising, therefore, to recognise frequent allusion to them in our topography; although here again one must not be too positive about such a name as Swindon and Swinton, which may either be the swine's down, or Svein's stronghold. There can be little doubt, however, about Swindale, Swinfield, Swinford, Hogmer, Eversham, and Everley, the last two representing the Anglo-Saxon *eofar*, a boar. All over Ireland and Scotland, too, one meets with such

names at Glenturk, Bennanturk, Drumaturk, Slochturk—the glen, the hill, the ridge, and the den of the boar. *Muc*, a sow, in the plural stood for swine, as in Clachanamuck; but Mucklagh, both singly and in compounds, probably signified a place where domestic pigs were pastured on acorns or mast. Thus Drumnamucklach means the ridge of the swine pasture.

It is still harder to distinguish names derived from wild cattle among those arising from domestic herds. There are, however, four rivers in Scotland named Tarff, which almost certainly indicate the haunt of a wild bull or bulls. People are prone to devise fanciful or poetic explanations of the plainest names, and one wiseacre after another has attributed to the primitive Celt the design of naming these rivers *tarbh*, the bull, because of their roaring. Well, I know three of the four, and nothing could be less suggestive of a bull roaring than their gentle murmur and plash.

I prefer to imagine them when they wound their way through the oak and birch of the primæval forest, with here an open glade and there a waterside meadow, chosen haunt of the lord of the herd, whom it were best to approach with precaution. Careful mothers would warn their children not to wander along the banks of *Amhuinn Tairbh*—the bull stream—and the name, anglicised Tarff, has survived the wild cattle, the forest, and the hunting community.

The true wild cat and the polecat, or foumart, still survive in a few recesses of our mountains, but in the greater part of our country they live but in the memory of the oldest inhabitants. In a certain region

S. Cuthbert's Place of Rest

LONDON EDWARD ARNOLD 1909

where none of the present generation has seen them, their names still indicate their pristine haunts. A picturesque waterfall is known at Lingat—the cat's pool, and a lonely glen on the mountain side as Corrie-fecklach—that is, *coire fecolaich*—the corrie of the stinking one, foul mart, or polecat.

Many another glimpse of life and scenery in a by-gone age is obtained through names coined by races long since passed away. Much of our landscape, especially in the north, is treeless now, but two thousand years ago most of the country below the thousand feet level was dense forest from sea to sea. The names remain in many places whence the verdure has disappeared. I have in mind a bleak wind-swept moorland whereof the name Derry, our rendering of the Gaelic *doire*, proves that it was once umbrageous with oaks. Not far distant is a farm bearing the quaint title of Inshanks, which it requires but a slight acquaintance with Gaelic to recognise as *uinseann*, the ash wood. So Loch Goosie, a tarn in the same district, with nothing taller than a rush bush within sight of it, bears in its name no reference to fowl, wild or tame, but declares that it was once sequestered in a pine forest—*giuthesach*.

It may be thought that one might be more profitably occupied than in unravelling the significance of these well-worn titles. Possibly, but *experto credite*, a little understanding of them adds vastly to the pleasure of a country ramble.

July

XXXV

The Primrose Family

THE title of this paper has no reference to that Scottish family which the present Earl of Rosebery has made historic, but to a far more ancient race than his. It is not mentioned among the denizens of the Garden of Eden, but it must have been represented there, else was that garden a far less delectable pleasaunce than we have been given to believe.

Of all the flowers of the field there is no more aristocratic race than the primroses. Nearly all other plants with blossoms of conspicuous beauty are afflicted with poor relations. The rose, for instance, has some very disreputable cousins in the brambles; the golden-rayed lily, be it never so gorgeous, the lily-of-the-valley, be it never so chaste, the tulip, be it never so gaily pranked, may never disclaim close affinity with the plebeian onion; and as for the aubretia, flushing every springtide into sheets of delicious purple, and the fragrant stocks and wallflowers, they own a common descent with scores of obscure or troublesome weeds. But the primrose family, in all its numerous branches—*primula cyclamen, androsace, soldanella, dodecatheon, lysimachia,* etc.—hardly contains a single species without

the endowment of beauty and grace. So thought Spenser when he penned the lines:—

> 'A fairer nymph yet never saw mine eie,
> She is the pride and primrose of the rest.'

The largest genus of the primrose order, that of *Primula*, contains an immense number of species, chiefly natives of the mountain ranges of the northern hemisphere. Strange to say, of all this multitude only two species are indigenous to the British Isles, namely, the common primrose (*Primula veris*) and the lovely birdseye (*P. farinosa*). The common primrose is excessively variable, and at one time botanists inclined to dissent from Linnæus, who beheld in the primrose, the cowslip, and the oxlip no more than three racial varieties of a single species; but in this matter Bentham has vindicated the wonderful intuition of Linnæus in all questions of affinity, and pointed out that, although the primrose seems to be fitted with a separate footstalk for every blossom, these footstalks really spring from a common subterranean stem, which, in the cowslip, oxlip, and polyanthus rises above ground to carry a bunch of flowers. Primroses, cowslips, and oxlips, therefore, in all their varieties, should be regarded as constituting a single species, the oxlip representing a form intermediate between the extremes of habit.

This species has sported into innumerable garden forms, single and double, of many hues. The latest addition to the colour scheme is a veritable blue primrose, the achievement of the late Mr. G. F. Wilson, who created that remarkable *champ fleuri* at Wisley, now

the well-known demesne of the Royal Horticultural Society. By patient cross-fertilising and selection he managed to produce at first some blossoms of a cold slaty colour, but year by year he got better results, and now there are some fine varieties with deep, rich blue corollas. *Exegit monumentum*, for every succeeding spring these pretty flowers revive in those who enjoyed his friendship the memory of that gentle enthusiast. It remains for some disciple to raise from Mr. Wilson's stock a variety with double blue flowers.

One variety of the common primrose defies the skill of most of us to cultivate. It bears double flowers of crimson maroon; not the common double crimson, which is far from a satisfactory colour—too near magenta—but a full, strong tint which is only matched in spring by some of the dark wallflowers. It grows luxuriantly in Irish gardens alongside of the double blue hepatica, which is the despair of English and Scottish gardeners.

The birdseye primrose—the only other British species—is a most refined beauty, flowering at midsummer, when it sends up from among its mealy leaves a stalk six or eight inches high, carrying an umbel of small, rosy-lilac flowers with yellow eyes. I shall not forget the agreeable thrill imparted by the first sight of this pretty plant, growing in a colony upon a wet roadside bank in Cumberland. It does not occur in Ireland, and in the north of Scotland, by dispensing with a flower stem, has obtained specific rank as *P. scotica* in the classification of some botanists.

Among exotic primroses, few are cultivated except

by enthusiasts about alpine flowers. It is more than thirty years since the whorled Japanese primrose (*P. japonica*), a giant in the family, was brought to England and offered for sale at 30s. a-piece. Now it sows itself more freely than any other kind in any wet ditch or on moist, shady banks. In such places it grows two feet high, with great leaves of a charming fresh green, and the original crimson has sported into many shades of rose, lilac, and white. Those who have only seen it in a dry, sunny border should go to Wisley and see what a grand thing it becomes in a damp woodland. It has been eclipsed in stature by the recently introduced *P. pulverulenta*, which is merely a glorified edition of the Japanese primrose, with mealy stems. Another Japanese primrose of easy cultivation is *P. Sieboldi*, with creeping roots, and flowers of many tints, from deep rose to white, and from lavender to violet. Of nature equally facile, but far more beautiful, is the Himalayan *P. denticulata*, an early flower, whereof the abundant lilac or violet trusses contrast well with yellow daffodils. *P. sikkimensis*, also from the Himalayas, would be more showy if it would not hang its sulphur-coloured bells so persistently. Did it display them as boldly as *P. japonica*, which it rivals in stature, it would indeed be a desirable plant for wet places, for the trusses sometimes consist of fifty or sixty blooms. I prefer the Caucasian *P. luteola*, which, though not so tall, is very robust, and makes a better show.

All these primroses require a deep, moist foothold; protect them from parching, and they will thrive on

the level ground. With most of the smaller alpine kinds it is different. They too require moisture, but they must also have effective and rapid drainage. The species are far too numerous to mention here even a selection from them; but from the Swiss *P. auricula*, with which florists have played such pranks that the modest yellow-flowered parent could never recognise his piebald posterity, to the Cashmirean *P. rosea*, which opens its carmine blossoms before it unfolds its leaves, they all have the same troublesome habit of growing out of the ground, requiring either to be taken up annually and replanted neck-deep or heavily top-dressed with gritty soil to represent the seasonal tribute of melting ice. Howbeit, they are all worth the extra trouble.

A new colour in primroses has lately been discovered in China by Mr. Wilson (not he who produced the blue primrose, but the well-known collector who has added so much to our knowledge of the exotic flora). *P. Cockburniana* has a corolla of intense orange, tending to scarlet. Whether it will prove a good perennial seems doubtful at present, for it seems to partake of a biennial nature.

The true primroses, as has been said, by no means monopolise the beauty of the family. The androsaces, hardy little mountaineers, reward the attention which they well deserve, being impatient only of drought in summer and stagnant damp in winter. It is surprising that hardy cyclamens are found in so few gardens, for, once established, they seed themselves freely, even in gravel paths. There is much confusion in their names,

the spring flowerers being usually called *C. coum, repandum,* and *ibericum,* and the autumn flowerers *C. hederæfolium, europœum,* and *neapolitanum.* A charming species has lately been brought from Mount Lebanon (*C. libanoticum*), and flowers in April. All cyclamens are worth growing for the beauty of their foliage alone.

The American cowslip, or shooting star, bears reflexed blossoms more like a cyclamen in form and colour than an English cowslip, though, unlike the cyclamen, it carries them in cowslip fashion at the top of a tall stem. Linnæus had some pretty fancies. Will any one explain what he had in mind when he christened this graceful plant *Dodecatheon*—the Flower of the Twelve Gods?

The loosestrifes, most of them, are more weedy in habit than the rest of the primrose order. Perhaps the best is *Lysimachia ephemerum,* not often seen, but well fitted to adorn a shady nook with its delicate white spires, three feet high. One must not part with the primrose family without kindly mention of our native chickweed wintergreen (*Trientalis europœa*), which the Scottish Highlands share with northern Europe, Asia, and America, and of the common pimpernel (*Anagallis tenella*), which enjoys the distinction of being the only British wildflower, except the corn poppy, that displays the national colour—scarlet.

XXXVI

Death-dealing Flowers

It is well known to modern botanists that certain plants are carnivorous. The common sundew (*Drosera*) of our moors and mosses spreads its little round or spoon-shaped leaves, studded with sensitive and glutinous tentacles, for no other purpose than to attract and imprison small flies, from which it extracts and assimilates the juices, deriving nourishment therefrom.

'This wonderful little plant,' says Mr. Scott Elliot in his *Romance of Plant Life*, 'shows quite distinctly that there must be some way of sending messages in its leaves. Somehow the message travels from the tentacle which the fly has touched, down the stalk into the leaf, and up into the other tentacles, and tells them that there is something worth stooping for.'

Certain American botanists are accumulating evidence in support of their belief that plants are not only sensitive, which requires little demonstration, but that they reflect and exercise will-power. At all events, the *Drosera*, like epicures of higher organisation, are sadly wanting in discretion. Mr. Scott Elliot tells us that 'when they are taken to a greenhouse and experiments are made on them, they run into very great danger. They are almost certain to die of over-feeding or indigestion. It is impossible to keep people from giving them too much to eat.'

The butterwort (*Pinguicula*) is a lovely little native plant with violet flowers and waxy, succulent leaves, as innocent in appearance as any herb of the field.

Howbeit, it is just as bloodthirsty as its neighbour, the sundew, though it contents itself with smaller game. In its haunts, which are moist banks in moorland regions, midges are sure to abound, and female midges, when there is no tourist or full-blooded sportsman at hand, are fain to stuff their little bellies with vegetable juices.[1] The leaves of the butterwort seem to Madam Midge to hold promise of great delicacy, for they are covered with innumerable glands, 50,000 to the square inch, it is said, secreting a viscous fluid. But no sooner does the tiny creature alight on the glistening surface than it is glued tight. The leaf curls slowly round it, discharging upon the prey a solvent akin to the gastric juice of mammals; and next day, when the leaf unrolls, nothing is left of Madam Midge but the skin and wings.

The sundew and butterwort partake of solid food, and take their meals in the open. Any passer-by may see them at dinner, just as the people of Paris were privileged to gaze upon Louis XV. and his family at table. But there is another little inhabitant of our bogs for which you must hunt closer, for he dines in private, under water in fact, so he requires a diet of soup or water souchet. This is the strange *Utricularia*, or bladderwort, which lays out along its finely-dissected foliage a number of little bladders, the entrance to which is fitted with a trap-door, carefully left open till some water animalcule takes refuge within from the pursuit of a larger creature. Then the trap closes with

[1] It is only the female midges that suck blood and vegetable juices. The males take no sustenance during their flight.

a snap, and from glandular hairs on the inside of the bladder exudes a digestive fluid which extracts the nutritive parts of the prisoner, and assists the captor in the exertion involved in sending up a spikelet of gay little yellow flowers.

British fly-devouring plants are inconspicuous assassins compared with certain exotic species. Most of them work with the leaves, like the North American Venus's Flytrap (*Dionœa muscipula*). These leaves are indeed of surprising mechanism. Every leaf ends in a circular lobe divided into two halves by a strong midrib. Each of these halves is bordered along its outer margin with teeth like a rat-trap; in the middle of each stand three sensitive hairs. The entire lobe is laid out flat on the ground. An insect walks upon it: all is well, so long as the intruder keeps clear of the said hairs; but let it touch one of these, and, presto! the trigger is released, the two half-lobes close like the jaws of a trap, the marginal teeth interlocking, and that insect sees the light of the sun no more. Perhaps the most significant part of this operation is that both half lobes respond to the trigger touch upon one of them, showing complete co-ordination and instantaneous sympathy.

If *Dionœa* works on the principle of a spring trap, the pitcher plant (*Nepenthes*) acts like a baited pitfall. The end of each long leaf is formed into a pocket or vase, in which water collects. Honey is abundantly distilled along the lip of the vase, and the throat of the vase is lined with hairs pointing downwards. An insect creeping in, sucking up the honey as it goes, gets

among the hairs, which prevent it withdrawing. Struggling in vain against the points, its strength fails, it falls into the liquor below, which is strongly impregnated with digestive solvent, and in less than an hour's time nothing remains but the indestructible parts.

To return to the bladderworts above mentioned, although abundant moisture is essential to all the family, some species manage to exist in damp soil or moss. Others, again, like our native species, cannot live unless immersed in water; tropical and sub-tropical bladderworts are sometimes hard put to it for a supply, and take advantage of the stores laid up by certain other plants for their own use. The *Tillandsia*, a member of the Bromeliad or Pineapple family, comes in very conveniently in times of drought, for in the centre of its crown of leaves a cup is formed in which water collects. Insects fall into this cup in numbers; probably the Tillandsia derives nourishment from their decaying bodies, and the liquid stinks horribly; but this does not deter a species of bladderwort from taking up its abode in the reservoir provided by this involuntary host, where it thrives famously and gets lots of good fishing.

I have had reason lately to believe that a plant not hitherto suspected of carnivorous habits devours insects by the hundred. This is the beautiful Himalayan *Rhododendron barbatum*, or bearded rose-laurel, so called because of the bristles which stand thickly along the footstalks of the leaves.[1] In summer the buds, which are formed for the following year's flowers and

[1] I allude to the hirsute variety of this rhododendron. There are in cultivation varieties more or less destitute of hairs.

growth, are thickly covered with a clammy transparent varnish, which in winter hardens into a protective glaze. These glistening buds attract flying insects of many sorts and sizes, the smaller ones being caught in the sticky substance at once, the stronger ones, which might kick themselves free, being entangled by the *chevaux-de-frise* of bristles, and both alike perish. In March, when this shrub displays its splendid scarlet blossoms, the stickiness has disappeared, and the visits of insects are welcomed for the purpose of cross-fertilising the flowers. Thus the bearded rhododendron appears to treat insects much as bearded man does other animals, devouring some and using others for domestic purposes.[1]

In all the instances above-mentioned, plants kill insects for a specific purpose, beneficial to themselves; but there are cases where no such purpose is apparent and the slaughter seems objectless. A correspondent of the *Garden* newspaper lately called attention to the destruction of hive bees by the African torch lilies, commonly called redhot pokers. The honey of these flowers has a stupefying effect upon the bees, hundreds of which die, leaving their corpses in the flower-tubes. Other bees, not caring to squeeze their substantial persons into these narrow tubes, bite through the flower near its base and get direct access to the honey glands in that burglarious fashion. They too succumb

[1] I should explain that I have not actually detected any mechanism enabling this rhododendron to derive nourishment from flies, and some good botanists discourage the hypothesis. They tell me to look at the glistening sticky buds of the horse chestnut. I do so, but find no flies, for the horse-chestnut only exposes its buds in winter, whereas the bearded rhododendron does so in summer.

to intoxication, and fall to the ground; but afterwards recover and fly away. The bees imprisoned within the tubes invariably perish from the stupefying fumes.

The last plant which I shall mention is the hairy arum (*Arum crinitum*), which produces the most repulsive flowers with which I am acquainted; repulsive alike in aspect and in odour, for the enormous hairy hood or spathe, enclosing the livid spadix, gapes like a wound eight or ten inches long, and emits the odour of carrion. Blowflies are attracted by the smell, and deposit their eggs, in the belief, I suppose, that the flower is putrescent meat; but no fly that enters that chamber of death is allowed to depart; the interior of the flower becomes choked with corpses, in which maggots are hatched to devour the bodies of their parents, and to assist, I fancy, by their movements the fertilisation of the ovaries on the spadix. It may be added that this plant will not withstand British winter cold except in the south and west, but may be grown in the same way as dahlias and gladioli.

XXXVII

Nimium ne crede colori! Neither countenance nor complexion can be trusted as an index to character. One of the most ardent and consistent advocates of teetotalism I have ever known was afflicted with a nose of bacchanalian dimensions and colour, and the modern bull-dog belies his appearance by proving one of the mildest of mammals. Still, being guided unconsciously by feature and expression in estimating the disposition of our fellow creatures, we

The Lump-sucker

should be sure to underrate the peculiar virtues of the lumpsucker, a creature which nature has endowed with a countenance charged with sullen ferocity, and a demeanour suggesting only indolent gluttony.

The lumpsucker (*Cyclopterus lumpus*) is a marine fish not uncommon on the British coasts, well known to Scottish fishermen as the 'cock paidle,' so thick and stumpy in figure that a female eighteen inches long weighs more than 10 lb. The normal weight for a trout of similar length is 2½ lb. Notwithstanding this unprepossessing exterior, fisher-folk have long credited this creature with qualities much at variance with its appearance. Fabricius described it long ago, in his history of Greenland fishes, as a model of parental devotion; but scientific icthyologists have inclined to incredulity in this matter. The latest witness was Johan Persson, a Swedish fisherman near Göttenburg, who averred that he had watched a pair of lumpsuckers three years in succession, spawning in the same rock-cleft at a depth of three or four fathoms, and that the male fish not only kept guard over the eggs till they were hatched, driving off even such formidable marauders as large crabs; but that it 'blew on the roe' at intervals; that is, spouted water from its mouth upon the ova.

Now there is a prevalent suspicion that fishermen's tales will seldom stand the test of scientific investigation. It is, therefore, peculiarly gratifying to me, as one of the angling fraternity, to point to the twenty-fourth annual report of the Fishery Board for Scotland, Part iii., where ample vindication of Persson's

veracity will be found. Dr. Wemyss Fulton, Superintendent of Scientific Investigations, obtained four live lumpsuckers from the salmon nets, two males and two females, and placed them in a large tank in the laboratory. During the night of March 23-24, both the female lumpsuckers spawned, depositing the two large masses of eggs, luckily close to the front of the tank against the glass, where subsequent proceedings could be clearly watched. The mothers retired to the darkest corner of the tank, where they lay nearly motionless for some days, doubtless going on 'as well as could be expected.' Interest was now concentrated on the conduct of the male fishes. Dr. Fulton supposes that in the night a contest had taken place between them for the sole guardianship of the two nurseries, which their thoughtless spouses had placed so inconveniently near each other. If so, one of the fathers had been hopelessly worsted in battle, 'and never regained courage to attempt further contest for his rights, but displayed a most craven spirit from first to last, lurking in the darkest part of the tank, as far from his rival as he could get.' The victor took both masses of eggs under his charge, never leaving them for a moment during two months' vigil, except when he made furious charges at flounders or other occupants of the tank which strayed near him.

'The flounders soon came to understand the position, and avoided the corner where the eggs were lying. They chose to occupy the other side of the tank, preferring the company of an old lobster, though he was in the habit of catching one of them by stealth occasionally and devouring it. His quiet,

sly, diplomatic ways, though really more dangerous, were less alarming to them than the furious, but harmless, assaults of the lumpsucker.'

It is by butting, not biting, that the lumpsucker scatters intruders, for his mouth is not equipped as a weapon of offence. But his shock tactics are very effective. One day the attendant bared his arm in order to put a flat stone behind the eggs so as to show them up better. The guardian fish charged so furiously as to drive his arm against the front of the tank. But the diminutive brain of this fine fighter proved capable of discrimination. The two females, after a few days' repose, became hungry and active. They paid no attention either to their husbands or their eggs. 'Even when one came so close to the eggs as to brush them with her fins, the male merely looked at her, or moved a little aside to let her pass.'

For two long months this infatuated father could not be induced to take any food. He became thin and infested with parasites, losing all the bright colours of courtship. His appearance was desperate and disreputable, though the unemployed male remained as corpulent and bright as ever. If a mussel or other savoury morsel happened to sink near the guardian or his precious charge, he would seize it in his mouth, carry it to a distance, spit it out, and return at once to his post. The other lumpsuckers ate as many mussels as they could get.

Thus far this little drama differed only in the scale of the actors from the domestic performance of the male stickleback, an average lumpsucker weighing

about as much as one thousand sticklebacks; but the strangest part of Persson's narrative still remained to be proved—namely, that the lumpsucker 'blew on the roe.' Proved it was most conclusively.

'From the first, the guarding male was observed to fan gently the mass of eggs with his breast fins, clearly for the aeration of the eggs, but for some time the action was leisurely performed, and was by no means so striking as it became later. . . . From the early part of April onwards he kept fanning the spawn with more zest than at first; and on April 10th another action was for the first time observed. Placing his mouth about an inch or so from the spawn, he spouted water out upon it. . . . The current created was so strong as to sway the algæ growing on the side of the tank, as well as the tentacles of an anemone in the neighbourhood, and even to cause the whole mass of eggs to rock visibly backwards and forwards. This action was done at brief intervals, and from this time onwards. Later, when the eggs were hatching, it was redoubled, and great activity was shown with the fins. The movement thus created in the water very probably helped the escape of the larval fishes from the eggs. At this time the pumping or blowing action was at the rate of fifteen or sixteen in ten seconds, and in the pauses the fins were kept vigorously at work.'

Whence it appears that hatching out lumpsucker eggs is not the simple matter it might be deemed. Professor M'Intosh, indeed, ascertained this several years ago by repeated experiments, which always ended in putrefaction of the whole mass; and it is now clear that, to keep the eggs alive, it is necessary to force oxygenated water into the interstices between the eggs, and that the male parent understands the increasing urgency for this during the later stages of incubation.

XXXVIII

Another queer Fish

For sheer unmitigated hideousness there is no vertebrate animal which surpasses the angler or fishing-frog (*Lophius piscatorius*)—the wide-gab, as we call him in the north. According to human æsthetics it has not a single redeeming feature. Its enormous countenance, occupying one-third of the creature's entire length, expresses nothing but stealthy craft, ferocious cruelty, and eager gluttony, and one shudders to recognise in its entire structure the analogues of our own organs. An unpleasant similarity is imparted by the form of the ventral fins, which are placed very far forward, and are palmate, slightly tinged with flesh colour, resembling six-fingered hands. With these organs the fish is able to walk on the sea-bottom, and even to crawl on dry land.

Fisher-folk are well acquainted with this monster of the deep, which is pretty common round all our coasts; but the landsman who beholds it for the first time stands amazed at the ingenuity of Nature when she aims at the repulsive. From an immense, flattened, spiny head, nearly circular in outline, depends a bloated stomach, whence the slender body tapers rapidly to the tail. The mouth, when open, forms a circular chasm, sometimes upwards of four feet in circumference, both jaws being set with a row of strong, incurved teeth, which the owner can fold inwards to admit the passage of prey, and erect again to prevent its egress. When the mouth is closed, the fishing-frog's

outline bears a general resemblance to that of a tadpole.

Howbeit, despite its ungainly figure and forbidding aspect, *Lophius* cannot be destitute of all virtue, for he practises an art which, as Izaak Walton assured us, is followed only by 'men of mind and sweet and peaceable spirit.' His tackle, and the use to which he puts it, are among the most surprising instances of Nature's anticipation of human invention. Of the rays of the dorsal fin, six in number, only the posterior three support any membrane, and that a very small one. The anterior three are greatly prolonged and are placed between the eyes, the foremost of them being tipped with a silvery tag or double lappet. This ray is slender and wandlike, working in a joint just above the centre of the upper lip, and can be waved about in every direction. When *Lophius* goes a-fishing, he buries himself on a bed of seaweed, assimilating his body colour with wonderful exactitude to the surroundings, his concealment being rendered perfect by a fringe of membranous fronds which grow along his lips and round the entire length of his head and body. Then he erects his fishing-rod, waving it to and fro in the tide, till some wandering whiting or flounder makes a dart at the glittering bait; whereupon the concealed angler opens his vast mouth, the inrush of water engulfs the prey, and the bait is set once more. 'Half the animal world,' wrote Yarrell truly enough, 'seem destined to destroy each other, some by open violence, others by stratagem.' The angler-fish employs both; but not being endowed with swiftness, relies on

stratagem to effect the violence. Even if it goes to sleep in its lair, its victims do not escape, for the fishing-rod is very sensitive, being covered with skin and nerves, communicating a 'bite' instantaneously to the centre of sensation.

Montagu says that, so healthy and vigorous is the appetite of the angler-fish that, when taken in a net, it sets to work upon its fellow prisoners, especially flounders, which the fishermen afterwards recover alive from its stomach. 'It is not,' he adds, 'so much sought after for its own flesh, as for the fish generally to be found in the stomach.' A common size of the angler-fish is about three feet in length; but a much larger one was found this year [1908] stranded on Heston Island, in the Solway. It measured fifty-three inches from snout to tail-fin and weighed just under sixty pounds.

XXXIX

Plants to be avoided

Attention has been drawn lately in gardening journals to the danger arising from planting the American poison ivy (*Rhus toxicodendron*) as an ornamental shrub. It is, indeed, a most virulent poison, its mere presence in a room causing serious discomfort to some persons, and the handling or cutting of it being followed by very painful consequences to others. The danger is the more insidious because of the plant's general resemblance to the Virginian creeper group; indeed it is, or used to be, often sent out by nurserymen under the innocuous

title of *Ampelopsis japonica*, although *Ampelopsis* being a true vine, belongs to a very different natural order to *Rhus*. The confusion is increased by the splendour of the poison ivy in autumn, when the foliage fades through brilliant tints of yellow and scarlet. Having enjoyed its beauty for many years in my own garden, where it luxuriates, I begin to think that it is time to turn it out. Considering the wealth of hardy exotics one has to choose from, the presence of poison ivy might well be dispensed with, except in botanical gardens.

The mischievous agent in this plant is toxic—that is, it consists of an active poisonous principle, affecting the nerves and circulation; in fact, it has long been recognised as a powerful drug in the homœopathic pharmacopœia; but it has never been explained to the writer by what means the living plant can take effect by mere proximity upon persons susceptible to its influence. The leaves have no perceptible aroma until crushed, and the inconspicuous greenish flowers, produced in June, do not appear to be part of the mechanism of offence. In the too common nettle the mechanical and toxic agents are very neatly co-ordinate. Each stinging hair is seated upon a gland containing a powerful acid. The slightest pressure serves to break off the blunt head of the hair, when the flinty edge of the fracture penetrates the skin; simultaneously the base of the hair squeezes the reservoir, causing the poison to flow into the wound, the exasperating result being what we all know. But no such causation can be traced in the poison ivy,

which is as subtle in action as the fabulous upas tree. Fabulous, inasmuch as its repute for far-reaching deadliness is purely fictitious, though of course the upas tree is a scientific reality (*Antiaris toxicaria*), producing a gum with which the Malays used to poison their darts.

In another tropical plant, *Mucuma pruriens*, the offensive agent seems to be purely mechanical. Dr. Collingridge, Medical Officer of Health for the city, has called attention in his recent report to the nefarious use made of it under the name of 'bottled torture.' The pods, four or five inches long, are covered with innumerable barbed hairs, which penetrate the skin with great ease and cause intolerable itching, sometimes setting up dangerous inflammation. It seems that the stuff was once in use in this country as a vermifuge, and was lately imported as an interesting novelty for the purpose of practical joking. Certain tradesmen in London, all unaware of the diabolical properties of 'bottled torture,' laid in a stock of it, which, it is reassuring to hear, they promptly destroyed when its true nature was explained to them.

It is difficult to understand the purpose of this ferocious armature on the fruit of a plant. Most fruits, so far as they are designed in relation to man and other animals, are either rendered as attractive as possible in appearance or esculent properties, or are fitted with special apparatus for clinging to garments, hair, or wool, in order that the seeds may be distributed as widely as possible. But *Mucuma* must be a regular 'nitouche,' desiring nothing but to be left

alone; for he who handles a pod will drop it pretty quickly and vow never to touch another. Here, as I know nothing about the plant save the reference to it in Dr. Collingridge's report, I will leave speculation to some one better informed.

August

XL

A CREATURE endowed with neither lungs nor heart, stomach nor teeth, might be considered an unequal competitor with man; yet it is just such a creature that has inflicted, is inflicting, and is likely to go on inflicting serious pecuniary loss upon market gardeners in all parts of the United Kingdom, and has aroused much dissatisfaction amongst careful housewives. The creature in question is one of the numerous family of gall-mites (*Eriophyidæ*), and is the agent in the widespread and destructive black currant blight, which was for long attributed to the action of a parasitic fungus.

The currant-bud mite (*Phytoptus ribis*) is an extremely minute creature, so small as to be invisible to the naked eye; but what it lacks in stature it makes up for in numbers, Mr. Newstead having counted in a single bud no fewer than 2748 individuals, besides those obliterated in opening the bud. His experiment was made in January; had it been in March he expressed the belief that the number would have been doubled. Minute as it is, this creature is somewhat elaborately constructed, having a head with a

sucking proboscis, four legs armed with double claws, and an abdomen divided into from sixty to ninety segments. It is easy to detect in winter the buds affected by mites by their swollen appearance. Slit one of these buds longitudinally, and the folded leaves will be found open at the apex; while in healthy buds, where morbid action has not been set up by irritation, the embryo leaves are always closed at the apex. The presence of a colony within a bud results in its becoming what gardeners term 'blind'—that is, it produces no flowers, and consequently no fruit. No remedy or palliative has been discovered for this pest. Spraying is of no use, for the mites are protected by the outer covering of the buds at the time they are working the mischief, and it seems likely that before long we shall have to dismiss black currant jelly from our list of luxuries.

There are many other species of gall-mites. Birch, beech, hazel, yew, all have bud-inhabiting mites peculiar to themselves; but none has caused so much damage as the currant-mite. The yew, perhaps, has suffered more from its bud-mite (*Phytoptus taxi*) than any other forest tree, most of us being familiar with the disfiguring blight on the foliage which is popularly attributed to the action of frost. Of the causes predisposing to the spread in recent years of the currant-mite plague, it may be said that nothing has been ascertained.

Neither has observation conducted from immemorial times—ever since man began to till the ground—resulted in any connection being established be-

tween the character of the seasons and the prevalence of insect plagues. It is commonly supposed that a hard winter tends to rid the ground of such creatures as pass their larval stages therein or hibernate above ground as chrysalids or pupæ. The most notable refutation of that belief in my recollection happened in 1895, when there was an unusual abundance of insect life, although the preceding winter was the most severe in the experience of the present generation. It may be thought that the extraordinary snowfall of that winter may have shielded subterranean organisms from the tooth of frost; probably it did so; but this year (1908) the land was visited by severe frost so late as April 24th, and two succeeding days. From twelve to twenty degrees of cold were registered in different districts, and in those parts where no snow fell the ground was frozen hard to a depth of several inches. Yet in the south-west of Scotland where widespread damage was done to vegetation, this visitation has not interfered with an abnormal abundance of 'pout,' or leather-grub, so serious in its effect that questions on the subject have been addressed to the representative of the Board of Agriculture in the House of Commons. Hundreds, probably thousands, of acres of young corn have been devoured by these creatures, and have had to be sown a second time, causing great loss to farmers.[1]

It is hardly necessary to explain that the leather-grub is the larva of different species of *Tipula* or

[1] In the succeeding season, 1909, the land which was so grievously afflicted with leather-grub has been almost entirely clear of it.

daddy-longlegs. The parent flies lay their eggs in long herbage, whence the larvæ descend into the earth, remaining there two or three years, feeding on the roots of grass, turnips, beans, clover, etc., and are especially destructive to 'lea' oats, that is, oats following upon pasture in rotation. The contrast between the grub and the perfect fly is truly remarkable, the grub being stout and legless, and moving through the ground by means of bristles set in its exceedingly tough, wrinkled skin, whereas the fly might serve as a type of fragility, very slender, with inconveniently long legs, which break off at a slight touch. The purpose of such inordinate legs it is difficult to conceive, for if some, or even all, are removed, the creature gets on perfectly well without them—indeed, seems rather grateful for being relieved of a useless incumbrance. There is only one remedy known against the presence of leather-grubs, and it may seem strange that farmers are almost unanimous in preventing that remedy taking effect.[1] The mole-catcher is a recognised institution in every agricultural community, yet the mole is the only creature that can follow leather-grubs into their haunts. Birds eat them readily enough; rooks, seagulls, and starlings follow the plough closely and pick them up among whatever other edible morsels are turned out by the share; but the mole ploughs for himself, passing through the mould as a fish does through water, and waging relentless war upon leather-grubs and wire-worms. Truly a beneficent mammal, whose merits

[1] I have lately met two Scottish farmers of arable land who were all in favour of preserving moles.

would be readily recognised but for the mess he makes on the surface. When a mole runs under a drill of newly thinned turnips, turning all the young plants out to perish, the farmer is not unnaturally exasperated, and will not listen to the excuse that the mole does not go there after young turnips, but after larvæ which would put the turnips to a more lingering death.

Again, the mole disfigures pasture-land by casting up the subsoil. In doing so he is actually performing good service, for the pulverised soil would make the best top-dressing for the grass if the farmer would spend in spreading the mole-casts the money he pays to the mole-catcher. And note, that the injury done to grass-land by leather-grubs is just as extensive and serious as it is to corn crops, though not so immediately perceptible. Whatever excuse, therefore, may be made for killing down moles on arable land, there is none whatever for doing so where grass is the main crop.

XLI

The following comes from a correspondent:

The Sheldrake

'Can nothing be done to put a stop to the slaughter of your sheldrakes? There are at present (7th August) in the estuary of the Urr (in Solway Firth) two yachts from Barrow with people on board who are spending their time shooting these unfortunate birds, many of which are not even able to fly, and those that are on the wing are only able to take short flights. Would it be possible for the County Councils to deal with this matter?'

Of course it would. It is unfortunate, but not surprising, that the successive Acts passed from 1880

onwards for the protection of wild birds other than game have had a confusing effect upon the general public, although the exact state of the law may be ascertained by a reference to Whitaker's *Almanac*. Nevertheless, a consolidating Act, setting matters in a clearer light, is much to be desired. By the original Act, eighty-six out of nearly four hundred species of British birds were scheduled, and an annual close time was provided for them, extending from March 2nd to July 31st inclusive; but a subsequent Act empowered County Councils to apply to the Secretary of State in England and Wales, the Secretary for Scotland in Scotland, or the Lord-Lieutenant in Ireland, to vary or abolish the close time for any of the scheduled birds, or to provide a close time for any bird or birds not included in the schedule, and to prohibit the taking of eggs of any wild bird in any county or part thereof. The sheldrake was scheduled in the original Act, wherefore a penalty is incurred by anybody taking or killing one during the five months of close time; but it is quite within the powers of the County Council of Kirkcudbright, where the estuary of the Urr is situated, to apply to the Secretary for Scotland for an order prohibiting the destruction of these fine birds at any or all times of the year.

Certainly if a blameless life be deemed to constitute a valid claim for protection, no wild bird merits immunity more strongly than the sheldrake. It injures no human interest, for its diet consists exclusively of molluscs, small crustaceans, sea-worms, and seaweed; and its brilliant plumage, large size, and bold flight

provide one of the choicest ornaments of our sea landscapes. Moreover the sheldrake cannot be eaten by civilised man. Even that inveterate wild-fowler, Colonel Peter Hawker, after giving elaborate instructions for the shooting of them adds: 'These birds show but tame sport with the gun, and are good for nothing when killed.' I have no intention of sampling their flesh, but Yarrell pronounced it to be 'coarse and bad, dark in colour, and unpleasant both in smell and flavour.' For very shame's sake, then, if not for mercy's sake, let an end be put to the destruction of what are among our finest water-fowls.

The distribution of the various species of sheldrakes is very interesting, especially in the light of a certain circumstance mentioned by the late Professor Alfred Newton. The South African species, *Tadorna cana*, has earned its specific name by its grey head, the rest of its plumage being cinnamon or bay coloured, and its bill and legs very dark coloured, like the ruddy sheldrake (*T. casarca*). It will be seen, therefore, how different is the coloration of this African bird from our British sheldrake, which has a dark green head, a broad white collar, a chestnut waistcoat; the rest of the plumage white and black, with a wing-spot of bright green-bronze, and the legs and bill vermilion, male and female being clad alike. Despite the dissimilarity in the appearance of these two species, in 1859 a male British sheldrake in the Zoological Society's Garden took unto himself a South African spouse in the person of a female *Tadorna cana*. Their offspring might have been expected to display a combination of their parents'

colouring; but, no! strange to say their plumage presented an appearance midway between that of an Australian species, *T. tadornoides*, and a New Zealand species, *T. variegata*, both of which have much darker and quieter coloration than either of the parents of these hybrids. Upon this Professor Newton observed:—

'The incident possesses an importance hardly to be overrated by the philosophical naturalist, though it seems not to have met with the attention it deserves. . . . The only explanation of this astounding fact seems to be that afforded by the principle of "reversion," as set forth by Mr. Darwin, and illustrated by him from examples of certain breeds of doves, domestic fowls, and ducks, as well as by Mr. Cambridge Phillips in the matter of domestic fowls. It is a perfectly fair hypothesis that the existing animals of New Zealand and Australia retain more of their ancestral character than do those of countries in which we may suppose the struggle for life to have been fiercer and the action of natural selection stronger. . . . The example of reversion (in these sheldrakes) proves that the same effect is produced in species as well as in "races" indicating the essential identity of both, the only real difference being that species are more differentiated than races.'[1]

The general effect of our cloudy skies and sunless winters upon the plumage of birds mainly resident in the British Isles seems to have been to check the development of bright coloration; but sheldrakes and kingfishers offer exceptions to this rule, the British sheldrakes displaying more vivid hues and contrast than does any foreign species; while none of the 125 known species of kingfisher excels our own species in

[1] *Dictionary of Birds*, p. 837.

tropical brilliancy, and several of the kingfishers of sunnier climes are clad in sad-coloured raiment.

XLII

Some Bird Parasites

In bovine, ovine, and other circles, Man the Omnivorous must be regarded with some of the shuddering horror which affects ourselves when we come in contact with certain parasitical forms of life. Our dairy industry, for instance, is rich in Arcadian association, though the growing use of the milking-machine threatens to destroy much of its poetry and picturesqueness. But dairying was never anything but sheerly parasitic—the abstraction of its juices from the living animal. Were it possible to obtain a census of opinion from 'the cattle upon a thousand hills,' it would probably prove highly uncomplimentary to ourselves, and reflect much the same sentiments with which we regard vampires and blood-sucking insects.

Those whose houses are frequented by swallows and martins, and who rejoice to be wakened on summer mornings by their twittering under the eaves, may have noticed the appearance on the window-panes of a dipterous fly of peculiarly offensive appearance. It is about the length of a common house fly, but much broader, clinging by strong claws, set on thick, crooked legs, and having a horny integument so hard that it requires heavy pounding to kill the creature. It is a member of the *Hippoboscidæ*, belonging to the strange group named *Pupipara*, or pupa-bearers, owing to their

peculiarity in reproduction. A single large egg is formed in the ovary of the female, which, passing into the oviduct, passes there through the larval stage, and is finally dropped as a pupa or chrysalis. Unlike other flies, therefore, these *Hippoboscidæ* have no active existence as maggots or caterpillars, reserving their voracity for the perfect or *imago* stage, when they make up diligently for lost time. Some of the family, such as *Hippobosca equina*, the dreaded forest fly, and *Stenopteryx hirundinis*, the parasite of the swallow, are furnished with wings, and fly strongly; others, like *Lipoptena cervi*, which infests red deer, are hatched with wings which they use until they have found a host, when they bite them off or shed them, and devote themselves exclusively to bloodsucking and reproduction. Others again, like *Melophagus ovinus*, the common sheep-tick (which it may surprise some people to be told is a real fly) are born wingless. Ticks are troublesome and loathsome enough, but who shall calculate the amount of irritation and suffering caused to a swallow by the presence of two or three *Stenopterices* among its feathers? Why, in proportion to the bird's size, each of these flies is as great as a full-grown rabbit is to a man! It is a kind of Nemesis, to be sure, for swallows feed on flies; and here is a fly, armour-coated, against which they are defenceless, for it is too tough to be killed. These flies or kindred species are known to infest various other birds, but seem to be especially attracted to those of the swallow family. The history of these parasites has been very imperfectly elucidated hitherto, and offers a promising

field of investigation to any one who will have the diligence to work it.

Aquatic birds seem to be particularly subject to persecution from parasites, especially the great crested grebe, which, when neither feeding nor sleeping, spends most of its time scratching, washing itself, and digging among its feathers with its beak.

XLIII

An Island Paradise

Of the multitude of pleasure-seekers who at the present season are distributed over Scotland, a large proportion derive no small part of their enjoyment from the scenery of that country; but probably a very small percentage care to consider how that scenery was formed, and what agencies have been at work to give the land its present appearance. To those who have not experienced the enhanced enjoyment to be derived from a general understanding of the growth of landscape, let me commend Sir Archibald Geikie's fascinating volume on *The Scenery of Scotland*, whereof a third edition was published in 1901. It is a book admirably fulfilling the purpose with which it was written, namely, to make readers of ordinary intelligence acquainted with the origin of hill and dale, plain and shore, and to give them an insight of the result of scientific research in which they may not have the time or inclination to take part. Though Sir Archibald confines himself in this book to the scenery of his native land, the agencies which he explains are at work in land sculpture all over the globe. One of

the most potent of these is the upheaval of the land, causing a succession of sea-beaches to be formed one above the other, and creating a more or less terraced contour. In Scotland, raised beaches can be recognised at heights of 25, 40, 50, 60, 75, and 100 feet above the present level of high tide; but in some of the Norwegian fjords they mark a land rise of 600 feet, and Darwin found a raised beach near Valparaiso at an altitude of 1300 feet. The movement is sometimes sudden and convulsive, sometimes secular and gradual, as in parts of Norway at the present day, where the annual rise is marked on the rocks in inches by observers; but a well-formed sea-beach, with tide ridges in the shingle, wave-worn rocks and tunnelled cliffs, indicates long intervals when the land must have remained stationary. At Posilipo, near Naples, may be seen some pillars perforated by a marine stone-boring mollusc, showing that, after the edifice was built, the land sank and submerged it, rising again after the molluscs had found time to bore into the stone.

Suppose the whole land surface of north-western Europe was to undergo a rise of 600 feet similar to that which has taken place in sub-Polar regions, what a bewildering change would be wrought not only in our scenery, but in the political and strategical circumstances of the United Kingdom. The occupation of the Blue-water School would disappear with the German Ocean, the Straits of Dover, and half the Bay of Biscay. Ireland would be united physically as well as politically to the predominant partner, and relief

would be afforded to her congested districts by a vast extension of territory on the west. Strange to say, there would still be deep water in the Beaufort Dyke, that profound cleft which lies between Port Patrick and Donaghadee, and some of the Highland sea-lochs would remain as isolated sheets of water.

Such were some of the reflections suggested lately when I came on deck one fine summer morning after our yacht had come to an anchor during the night in the quaint little archipelago of Scilly. Scarcely a ripple stirred the surface of the roadstead, and all around rose hog-backed isles and rugged islets, capped with fantastic crests of granite. One is impressed immediately by their similarity to the hill-tops of Cornwall; the Land's End and Lizard Point being respectively but twenty-five and forty miles to the eastward. Yes; these are but the summits of submerged mountains, and a far slighter elevation or depression than many which have affected the earth's crust would unite them in a single range or sink them out of sight.

If the Scilly group is correctly identified with the Cassiterides, or Tin Islands of Greek writers (and they are always specified as distinct from the mainland of Britain), the name must have originated from their use as a depôt for tin raised in Cornwall, the metal being transhipped in the roadstead for an ocean passage. Of the monks of Tresco and their secluded abbey nothing now remains but a couple of fourteenth-century arches in Mr. Dorrien Smith's garden.

But what a garden that is! Were it not for the

winds, which search every cranny in the rocks and have to be built out with cyclopæan walls and warded off with belts of tough, stunted trees, the vegetation would beguile a man into the belief that he was in Corfu or Madeira. Mesembryanthemums, the despair of inland gardeners, cover the rocks and rough walls with a mantle of crimson and gold; crassula, geranium, pelargonium, and other tender things associated with bedding out, here make perennial undergrowth for enormous aloes, bonapartia, prickly pear, cordyline, and various sub-tropical growths. Where shade and shelter can be had, tree ferns of several species grow magnificently. It would take many pages and involve the use of many polysyllables to describe a fourth of the exotics for which Mr. Dorrien Smith provides a congenial home. Mention, however, must be made of two of the loftier flowering things which luxuriate here, for nowhere else shall you see them in such magnificence. The first is the true *Metrosideros coccinea*; not the *Callistemon* or crimson bottle-brush which nurserymen usually supply under that name, but the real thing, distinguished from *Callistemon* by its epidendric tendencies and its terminal scarlet tassels. *Callistemon* bears carmine bottle-brushes, a splendid thing too, and quite hardy in Scilly. Indeed it only asks for a mat in winter to enable it to withstand any west country winter. The flower of Metrosideros was past at the time of my visit, but enough traces remained to show what these trees must have been in their glory. The other tree referred to, *Clethra arborea*, was in full flower. It

is sometimes seen in large conservatories, but under such conditions it never displays the wealth of shining, myrtle green foliage and spires of white, fragrant flowers which it puts forth here.

One other flower, and one only, let me recall — a charming form of the amaryllis which Linnæus, as appropriately as poetically, christened *bella donna*. The common variety is better than most things, and can be grown successfully in sunny corners as far north as Inverness-shire; but it flowers so late in the autumn that, except in sun-baked districts, it is apt to be marred by a foretaste of winter. But the Tresco variety comes into flower full six weeks earlier than the type; in mid-August there were sheaves of its sweet, rose-coloured blossoms growing in admirable contrast to the equally free-flowering *agapanthus*— the blue love-lily of Hottentot brides.

Methought that on a gem of an island like Tresco, a very fairyland of horticulture, one would as likely have found a rhinoceros as a rabbit. What an opportunity might be had to naturalise all kinds of exotic growth—the Kerguelen Island cabbage on the rocky knolls, the giant forget-me-not of the Chatham Islands on the beach, innumerable South African bulbs and heaths on the plains of granite sand. Alas! Outside the very garden walls everything is gnawed down by rabbits. Were I but lord of Tresco it would be an evil but a short day for these detestable rodents.

XLIV

This wet, backward summer (1907) has prepared an unaccustomed treat for travellers faring to the Highlands, who will be greeted by an abundance of wild flowers quite unusual so late in the season. The true heather has taken on no tinge of rose as yet, but the bell heath (*Erica cinerea*) is in full glow this Lammas Day (August 1). There is a peculiarly fine display of this beautiful plant on the cuttings of the Highland Railway between Tain and Bonar Bridge. Less commonly seen in masses is the more delicately tinted cross-leaved heath (*E. tetralix*), whereof there is at present a fine sheet on the carriage roadside between Kildonan and Suisgill in Helmsdale, *pointillé*, as heralds would say, with a thick sprinkling of the spotted orchis in all shades from pure white to crimson, and of the lovely golden spires of the bog asphodel, frosted also in places with clouds of the little heath crosswort (*Galium saxatile*).

Highland Wild Flowers

Among scattered birch stems between this bright enamelling and the river is a wide belt of yellow iris, still gay with blossom, and a tangle of wild roses, red and white. All these, except the white crosswort, in ordinary seasons would have hauled down their colours before this date, but now they are in their prime.

Exception may be taken to the term 'true heather' applied above to the plant known as 'ling' in England; but in truth we Scots are just as touchy about the use of the word 'heather' to indicate the heaths, as we are about

that of 'bluebell' to denote the wood hyacinth instead of the harebell. Botanically the distinctive feature of heather is the calyx, the segments of which are as long as the corolla and of the same colour; whereas in the heaths the calyx is very short and the colour effect is derived entirely from the inflated corolla.

The exquisite effect of this little natural parterre in Helmsdale makes one speculate why, among all the phases through which horticulture has passed and is passing, it does not occur to anybody to arrange a border planted only with British wild flowers. It might vie in brightness and variety with any collection of exotics, and by creating a distinct feature of interest, would redeem any garden from the besetting snare of sameness. It would not be difficult to prepare a list of native herbs to hold their own in competition with the flowers of other lands.[1] Here, then, is a suggestion —a geographical garden, arranged in compartments corresponding to the principal countries of the Temperate Zone. In two colours, indeed, the United Kingdom would be at a disadvantage, namely, scarlet and orange, for the corn poppy and the little scarlet pimpernel are the only British wild flowers that display the first of these colours; and the sole representative of the second is the orange variety of the Welsh poppy (*Meconopsis cambrica*), unless the orange hawkweed (*Hieracium aurantiacum*) may be granted letters of naturalisation. In other hues, we need fear no rival.

[1] I have prepared such a list of 275 British flowering shrubs and herbs suitable for ornamental gardening. [*Scottish Gardens*, pp. 229-252].

Yellow abounds in native flowers too numerous to mention—daffodils, marsh marigold, globe flowers, primrose, cinquefoils, and the interminable series of hawkweeds and buttercups; crocus, pansy, vetches, wood and field geraniums supply rich purples. No blue excels that of the vernal gentian for intensity or that of forget-me-not for purity, and there is all the host of harebells, wood hyacinth, and others to vary the key and the season. At the present moment the southern embankment of the Highland line between Novar and Alness is enriched with viper's bugloss, forming a far-seen sheet of vivid blue. Our white wild flowers include such variety as snowdrops, lily-of-the-valley, bladder-campion, water-lilies, the quaint little dwarf cornel (*Cornus suecica*), whose berries, immense in proportion to its stature, supply that colour which is so scarce among our native flowers, for they glow like scarlet sealing-wax. Of pink and crimson there is no lack. Ragged robin, rose campion, sea-thrift, centaury, and roses supply the first, and the second is almost too prevalent, merging, as it often does, into that dangerously strong tint upon which milliners bestowed the name of magenta some fifty years ago. Perhaps it is our cloudy climate that infuses a cold tinge into the crimson of many orchises, of foxglove, willow-herb, the spineless or melancholy thistle, the mountain saxifrage, and that pretty plant whose English name must be softly breathed lest it suggest a vulgar execration—the bloody cranesbill (*Geranium sanguineum*). Note that the two varieties of this pretty geranium known respectively as *lancastriense*

(blush) and *album* (white), are infinitely superior to the common form.

In flowering shrubs we islanders are far from strong, for when gorse, broom, hawthorn in many varieties, the shrubby potentil (*Potentilla fruticosa*), the guelder rose, the wayfaring tree, and the wild roses have been ticked off, there remains little else save blackthorn and brambles, for lavender and rosemary owe no allegiance as British subjects.

Among the herbs mentioned above, none is uncommon. No account has been made of such rare things as the blue *Menziesia*, the little mountain azalea (*Loiseleuria procumbens*), the brown and gold lady's slipper (*Cypripedium calceolus*) and others which, although indigenous to the United Kingdom, have been so nearly exterminated by the sinister diligence of collectors that the gardener must look to foreign sources for a supply. The commonest wild flowers respond to culture as freely as exotics. The birdsfoot trefoil, for instance, will spread into a great cushion of gold, and the lowly milkwort make as rich a tuft as the blue lobelia, if means are provided to spare them the struggle for existence with more robust plants which they have to undergo in their natural haunts. The common British daisy is an example of a weed lending itself to cultivation and rewarding the cultivator by a great variety of pink, white, and crimson forms.

In striking contrast to the bright blossom on hill and river-side is the desolate appearance of the birch woods in upper Helmsdale. Hundreds of acres have

been stripped of every leaf, presumably by the *Tortrix* caterpillar, which so often disfigures the oak woods of the south. The caterpillars have disappeared, so I have not been able to identify them; but they were probably the larvæ of that evil little *Tortrix*, one of the same genus as the cloth moth, well known to care-worn housewives. Black stand the birches, as leafless as in midwinter, scathed as if by a fire. They have not the recuperative power of the oak, which repairs the damage by putting out a second crop of leaves.

These birches are of the variety or sub-series known as *pubescens*, which occupies wetter, colder land than the other kind, *verrucosa*. This last prefers dry land, and is nowhere to be seen in greater beauty than in Strathspey. It is the weeping birch of our pleasure-grounds, and appears to have quite escaped the attention of *Tortrix*. Where ornament is the object, the planter should be careful to secure the birch of Strathspey, known botanically as *Betula alba verrucosa*.

XLV

The Nameless Tarn

They do greatly err who suppose that the fascination of angling is derived only from the prospect of a miraculous draught. It is quite true that there is always floating in the fisherman's imagination the possibility of rivalling the prodigious success of Mr. A. M. Naylor who, on 28th August (I forget the year, but it was somewhere in the 'eighties), killed with fly in the Grimersta, Island of

Harris, the amazing total of fifty-four salmon and twelve sea-trout,[1] or that of Lord Carmarthen, as he then was,[2] who, on the Avington water of the Itchen, landed eleven brace of heavy trout with the dry-fly on a single day; and Itchen trout are the 'skeeriest' known to me.

I suppose that if certainty of success were the main object for which one goes a-fishing, the place to go to would be Loch Leven, from whose fair bosom no fewer than 34,110 trout weighing 26,577 lb. were expiscated during the season of 1908. Assuming that the season afforded 170 fishing days (which it did not), that gives a daily average of 200 trout to the rods engaged. It is not in the nature of things that all these rods were wielded by adepts; a master of the craft, therefore, might reckon himself sure of a respectable creel, and any ordinary performer would do more than save his blank. But for my own part I have never cast a line on Loch Leven. Despite the notable quality of its trout, the scene of perpetual club competitions for money prizes is abhorrent to a modest exponent of the contemplative man's recreation, and a recent enterprise, albeit wholly barren of ponderable or tangible result, was redeemed from fruitlessness by reason of those subsidiary delights which can only be found in remote and unfrequented

[1] The conditions, of course, were wholly exceptional. The bay was crowded with salmon which could not get up the little river owing to the excessive drought. The waters of Loch Langabhat, a sheet ten miles long, were raised by a dam at the outlet, and then released to form an artificial spate. The result was that in six consecutive days three rods landed 333 salmon weighing 2026 lb., and 71 sea-trout weighing 52 lb.

[2] Now Duke of Leeds.

An untried Tarn

LONDON EDWARD ARNOLD 1909

places. For it must be frankly admitted that angling is so far a selfish pursuit that solitude, mitigated, it may be, or even enhanced, by the presence of a choice companion and a sagacious gillie, is indispensable to the fisherman's felicity.

Well, on the day in question nothing was wanting in this respect. The scene was one of the vastest solitudes in Scotland, empty of human cumber save where the West Highland Railway trails its slender, sinuous track across the Moor of Rannoch. On the borders of that moor, and here and there upon its expanse, gleam many, many lochs and tarns; some of them possessing high repute for the size and quality of their trouts; others peopled by innumerable small ones which never exceed the dimensions of a gudgeon; others again, difficult of access and of unplumbed depth, about which hang shadowy legends of enormous trout landed by sportsmen of a bygone age.

Most of these lochs, yea, even the smallest of them, are distinguished by Gaelic polysyllables; but the tarn whereon I had set my desire was nameless, at least the ordnance surveyors had not inscribed it with any title, nor could I induce either host or gillie to invent one for it. It attracted me more magnetically than other and larger meres (its whole area does not exceed three or four acres), because the evidence was tolerably convincing that a four pound trout had actually been taken from it within historic times.

Only a small part of its surface can be commanded from the shore, so wide and dense is the belt of reeds surrounding it; so my host undertook, in the face of

almost insurmountable difficulties, to cause a boat to be conveyed thither. It was latish before this was accomplished; and the soft air of a grey morning had hardened and turned gusty, not the kind of after-day to bring trout to the surface. However, there were we to make the best of it; there was the lochan, lying snugly in lee of the sheltering dome of Beinn-na-lice (which, if you would not be misunderstood, you must sound to rhyme, not with 'slice' but with 'streaky'), its waters impenetrably dark in the calm—silver-frosted in the breeze.

I had not patience to wait till the boat was launched; leaving it to my fellow-explorer, I began whipping along fifty yards or so of rocky shore, the only part of the loch accessible from the land. I cannot have made more than half a dozen casts when there came an eddying bulge in the brown water that made my heart stop beating. Nothing came of it, however; a big fish had missed the fly, and would not be tempted to have another shot. Nor could I stir another fin in the rest of my beat. By the time I came to the end of it my friend was afloat—and by the Hokey! he's in a fish; a good one too, judging by the arc of his nine-footer. Deep, deep and ever deeper the unseen quarry plunges, visiting every quarter of the little mere, warning all his clan to take shelter from danger. Fully twenty minutes were added to the past before that doughty fish could be brought to the surface and towed into the net. And how much did he weigh, think you? Six pounds?—four? Not less, surely, to judge from the toughness of the fight. Nay, but he barely pulled the

steelyard down to 2½ lb.; the secret of his resistance being revealed in the position of the hook, which was fixed, not in his mouth, but in the dorsal fin. A beautifully-shaped fish, but very dark, suitably to his native environment, without a single spark of scarlet on his skin.

By this time the evening had turned cold and raw. We left the Nameless Tarn with but a single specimen of its inhabitants which, as the reader may have murmured to himself before this, is but meagre material for so windy a yarn; but the enjoyment of that afternoon bore no proportion to the weight of the basket.

September

XLVI

The Little Brown Bird

Of all our British game birds, the partridge is the only one upon which the farmer looks with no ill-favour. The ptarmigan, indeed, is innocuous to all kinds of crop, but since that fine bird never descends below the 2000 feet level, the average farmer has no opportunity of forming an opinion about its propensities. Grouse and black-game take heavy toll of late corn; the proximity of hand-reared pheasants has to be considered in fixing the rent of arable land; but no agriculturist has an ill word for the partridge, which may, indeed, take a trivial tribute of scattered grain from the stubbles, but whose staple diet consists of small seeds, especially buckwheat, wild mustard, and such like, grubs, slugs, and the eggs of insects.

So may the partridge shooter go forth with a light heart, knowing that his amusement is not obtained at the expense of his hard-working neighbours. A farm may swarm with partridges, yet the tenant will be none the worse, but actually the better for their presence, owing to their diligence in devouring insects and the seeds of weeds.

The present generation has witnessed a radical change in the method of partridge shooting, which, while it has divested the sport of its pristine leisurely charm, certainly has this advantage, that birds of the year are allowed to reach full maturity of growth and plumage before they are brought to bag. On none of the best partridge manors is 'The First' such an important anniversary as it was of yore. The sickle, recognised from the days of the Pyramids as the orthodox implement of harvest, used to leave a fine rough stubble, in which the birds harboured so closely as to allow themselves to be found by dogs. Many persons still living may remember when the scythe was considered a great innovation, cutting much closer than the sickle, and imparting a novel and corresponding nervousness to the game. But the scythe was only the brief precursor of the more drastic reaping-machine, whereof the advent put an end to the vocation of silky-haired setters and satin-coated pointers. Henceforth stubbles hardly afforded cover for a field-mouse, and shooters could only be brought within range of their game by driving the birds into green crops, where they were walked up in line.

The monotony of this proceeding soon brought it into disfavour, and, about the year 1875, the method of driving the birds over the guns, concealed behind a high fence, was borrowed from the grouse moor. The chief results of this have been to concentrate into a few arduous days the sport that used to serve a succession of parties throughout the season, to increase enormously the number of birds shot in a single day,

and at the same time to multiply the stock on the ground in favourable seasons beyond all precedent. Where driving is regularly performed, to the exclusion of every other form of pursuit, the general stock of birds shows a marked increase. Compare the results of the two systems as shown upon the famous partridge ground of Holkham, in Norfolk. The total bags obtained in the two best years when 'walking up' was the vogue were 3308 partridges in 1868 and 3385 in 1869. Driving as aforesaid was adopted in 1875, with the consequence that 8100 partridges were shot in 1885, and 7512 in 1887.

It may be observed that 'walking up' seems to have been practised at Holkham long before it was adopted elsewhere—for in the celebrated two days' match between England and Scotland in 1823, when Mr. W. Coke at Holkham defeated Lord Kennedy, the Scottish champion, at Monreith, by killing 337 partridges in the two days, it is mentioned in the *Norfolk Gazette* of the time that Mr. Coke had a large number of beaters, and had the use of only one dog to pick up the game. Lord Kennedy who was beaten by about twenty brace, shot entirely over setters.

There are plenty of districts, especially in those parts of Scotland where the cultivated ground verges upon moorland or is broken by knolls of gorse and bracken, where partridges may still be shot over dogs as well as ever; but it must be sadly confessed that modern sportsmen are too impatient to relish that beautiful form of pursuit. Rapid loading deprives the

pointer of the breathing-time he deserves after ranging under a hot sun; unduly pressed, he commits mistakes; and the only dog that has a chance of distinguishing himself is the retriever. Into both grouse and partridge-shooting has now been imported the defect that has always marred the zest of deer-stalking; the sportsman becomes merely a marksman; all brainwork is performed by the attendant stalker, and in grouse and partridge-driving by the head keeper, who marshals his little army so as to bring the birds accurately over the line of guns.

Still, when all is said, driven partridges afford most exciting sport, exacting a supreme exercise of marksmanship, and in the highest degree beneficial to the stock of birds. But be it remembered where driving is practised no other form of shooting must be allowed. If the ground be dogged or walked up early in the season and driven later, the stock will inevitably deteriorate under such hard usage. Moreover, the ground must not be driven more than once or twice in a season. Record-breaking being the ruin of all true sport, one hesitates before quoting examples of what can be done in driving; the following instances are given only to show how discreetly such a destructive form of pursuit must be used. At Holkham in four consecutive days—December 8-11, 1885—there were shot 3392 partridges, and at the Grange, Hants, in four consecutive days—October 18-21, 1887,—4109 partridges.

The 'common' partridge is the term for the bird in ornithological works, but a few dismal summers like

1907 would soon make the description inapplicable, in the United Kingdom at least, so relentlessly did cold and wet massacre both first and second broods in that season.

Although the partridge is familiarly known to every country dweller, yet comparatively few persons are able to distinguish between the cock and hen birds, so close is the general resemblance between the sexes in size and plumage. To tell them apart on the wing is impossible; but there are certain well-defined, though minute differences which may easily be discerned when the bird is in hand. The usual test is to examine the breast; if it displays the characteristic horse-shoe arrangement of rich chestnut feathers the bird is confidently pronounced to be a cock, although it requires but a slight acquaintance with anatomy to prove with a penknife that nearly all hen-birds of the first year carry a horseshoe as clearly defined as that of the cocks. You must exercise discretion in propounding this doctrine (which has received the sanction of almost every text-book on ornithology) in the presence of a gamekeeper, for belief in the horse-shoe as the exclusive badge of the male partridge is wellnigh ineradicable among those who have most to do with the bird.

It was Mr. Ogilvie Grant of the British Museum who, for the first time, I think, formulated the true external marks of distinction between the sexes, and explained them in the *Field* newspaper (November 21, 1891, and April 9, 1892). It is rather difficult to convey the information without a diagram: but I will try.

The feathers of a bird's wing are ranged in three groups—(1) the primaries or pen-feathers, (2) the secondaries or cubitals, (3) the median and lesser wing coverts and the acapulars. In the male partridge the median feathers are dark, with a chestnut stain on the inner web, a clear stripe of buff down the shaft, and no light cross-bars. Those of the female, in addition to the light shaft-stripe, have two or three buff cross-bars. In the adult male, also, the feathers of the neck are bluish-grey, with no light shaft-stripe; in the female they are olive-brown, with a light stripe down the shaft. These differences are constant and trustworthy.

To distinguish a bird of the year from an older bird is easy enough till Christmas time, when the yellowish feet and toes of the young partridge begin to assume the slaty-blue tinge of the adult. Very few persons know how to distinguish the age of a partridge after the turn of the year. An infallible index is the shape of the first pen-feather, which in an old bird is rounded at the end, but in a young bird is pointed, and remains so till the moult of the second autumn.

XLVII

'Stupid woman! She doesn't know any better.'

It was refreshing to hear this remark spoken by one well-dressed lady about another, not nearly so well-dressed, but wearing a showy aigrette of 'ospreys' in her hat. Refreshing —because it showed that the patient and persistent

Borrowed Plumes

industry with which the Royal Society for the Protection of Birds has pressed the crusade against the plume trade, with its attendant cruelties, has convinced intelligent ladies of its real nature, and roused them to resist the tyranny of milliners; and because it stamped the wearing of 'ospreys' as a sign of stupidity. A fashionable lady may treat with indifference the imputation of cruelty, knowing that she would shrink with horror from committing any direct act of cruelty; but she does not like being thought stupid; and it *is* stupid not to perceive that to encourage wholesale cruelty, such as is involved in the collection of 'ospreys' from nesting colonies of white herons, by purchasing the plumes, is just as bad as to commit an individual act of direct cruelty.[1]

This principle has been vindicated in a remarkable way in the law courts of Louisiana, where a precedent has been established whereby milliners are held liable to fine or imprisonment for offering plumes of white herons for sale. The proprietor of a millinery store in New Orleans was sentenced to a fine of fifty dollars or thirty days' imprisonment for this offence, the presiding judge ruling that, as it was impossible to reach the persons who devastated the distant breeding-grounds of these birds, sellers *and wearers* of the plumes must be made amenable. Appeal was made to

[1] I have seen to-day (15th June 1909) a hat displayed in a shop window in Bond Street, entirely covered with the plumes of the white heron. It must have required six full-grown birds to supply them. *They have been dyed bright yellow*, so I suppose some credulous customer will buy the beastly thing believing the feathers to be other than what they are.

the Supreme Court, where the judgment was confirmed, on the grounds that, as the statute prohibits the killing of certain wild birds, the act of buying them must be included, forasmuch as 'the principal cause for killing is the consideration received, those who buy the plumes of these birds must be held to know that by buying them they hold out an inducement to hunt and shoot them.' The law under which this judgment was pronounced is in force in all but eight of the fifty-one states.

A few more convictions (and we are assured that the American Audubon Society are determined not to let matters rest) will render these plumes unsaleable in the United States. We may then expect increased consignments to European markets, which will entail redoubled efforts on the part of the R.S.P.B. to dissuade ladies from buying these tainted goods. The consignments are huge enough already. On April 16 of the present year (1908), in the London Commercial Sale-rooms, 422 packages of 'ospreys' were offered for sale, besides immense numbers of bird-of-paradise skins and 62 packages of albatross quills. (Will our ladies not be induced to give the *Ancient Mariner* a second reading?) At a sale in the same rooms on June 11, 348 packages of 'ospreys' were disposed of, besides five packages of osprey skins—that is, skins of the white egret in breeding plumage; 4244 birds of paradise, 1386 heads of crowned pigeons, and no fewer than 20,000 kingfishers. It is well within the power of fashionable ladies to stop this inhuman traffic, which is rapidly exterminating some of the most

lovely animals on earth. Are we to arrive at the sorrowful conclusion that it is the will, not the power, that is wanting?

In respect of our own legislation for wild birds' protection, welcome evidence has been given this year that the various Acts are being more vigorously administered than they were at first, when county councils seemed to hesitate about exercising the powers conferred upon them. I have described elsewhere the disastrous effects of netting as practised on various parts of the coast, and especially upon the practical extermination of ruffs and reeves in Norfolk and Lincolnshire. Mr. W. A. Dutt now reports a nest in Norfolk, during the present season, and reviews the history of this most interesting species during the last fifty years. A hundred years ago ruffs and reeves abounded in the fens and broads, but they were so relentlessly persecuted with clap nets, to be fattened for the market on bread and milk, that in 1858 only fourteen nests could be counted in the whole of Broadland. In 1868 there were no more than five, and in 1878 but two nests; after which date the only instances of reeves being allowed to breed in England were a single nest in 1889 near Hickling, and another in 1897 near Hoveton Broad.

In the present year (1908) nests have been found and protected both in Norfolk and Yorkshire, and there is good reason to hope that, by the combined vigilance of the police and the agents of the Royal Society for the Protection of Birds, these charming and beautiful creatures will be established once more in our land. How beautiful the male bird is in his courting dress,

and how variable that dress is, may be realised by any one inspecting the case of stuffed ruffs and reeves in the Natural History Museum at South Kensington.

Mr. Edmund Selous has contributed to recent numbers of the *Zoologist* a diary of his laborious and sustained observation of these birds during the courting season on the coast of Holland. No bird lover should miss the pleasure of reading the same. It proves that, while every reeve manifests individual preference for one out of a competing crowd of parti-coloured suitors, she is not averse from occasional, but most pressing, advances from others. In short, the reeve is far from being a model of conjugal fidelity, and goes a good way in the direction of polyandry, which is a system most rare among birds that ostensibly pair. Still more rare and unlovely is the practice of such ruffs as are unsuccessful in gaining the affection of a reeve; they work off their feelings by paying court to each other. The whole story, as told in detail by Mr. Selous, is far more interesting than any novel of 'sex,' and increases one's chagrin that indiscriminate slaughter has put an end for the present to the performance of this exciting drama on the English stage.

XLVIII

The American Bison

Among the many devices provided by the agency which we personify as Nature for the protection of living organisms, none is more effective than the plan of investing certain creatures with a menacing or repulsive exterior; up to

which, physically, they may be quite incapable of acting, but which causes them to be feared, or at least avoided, by other, possibly unfriendly, animals. In the vegetable kingdom, perhaps the most familiar example of this deliberate mimicry is furnished by the dead nettle (*Lamium*), which, springing in the hedgerow side by side with the stinging nettle (*Urtica*), a plant of widely different affinity, resembles it so closely as to be practically indistinguishable to the casual eye until the flowers appear upon each. Among birds, the domestic gander is scarcely capable of injuring a schoolgirl; but many a grown person has quickened his pace across the common to avoid the threatened assault of the bird, which comes at him with lowered head, open beak, and angry hiss. Again, among reptiles, how few people have the nerve to lay hand upon a slow worm, which is not a snake, though closely resembling one, but a legless, wholly innocuous lizard. And so, coming to the higher organisms, of all the mammalian inhabitants of our planet none exceeds the American bison (commonly spoken of as buffalo) in ferocity of mien. The normal expression on the countenance of a bison bull is one of slumberous wrath and watchful malevolence; the small, quick eyes, scintillating under vast, shaggy brows, betoken sudden violence of assault, which lithe activity of limb and loin will make irresistible.

This is all sheer bluff. The appearance of the creature completely belies its character and intentions. Its speed is employed to keep out of the way of man, whose presence, except when attacked or wounded, it scrupulously avoids; and in captivity bisons are

singularly gentle and inoffensive. Such, at least, is the character they have earned at Woburn Abbey, where the Duke of Bedford has a small herd.

Yet of all animals on earth, none has juster cause for cherishing vengeance against tyrant man than the American bison. Of all the countless multitude which roamed the prairies within living memory not a single bull or cow remains. Tens of thousands of these noble beasts were hunted down and slaughtered, sometimes only for their tongues, all the prime beef and splendid hides being left to feed the coyotes and buzzards, or to rot. Not until it was too late did men realise the value of what they had allowed to be wasted. The price of a buffalo-robe, once the perquisite of every cowboy—the common wrap of every Red Indian—is now reckoned in hundreds of dollars. As a wild race, the American bison exists no more. About six hundred head are preserved in private parks, and a bull commands the price of 5000 dollars (£1000). Swift and complete has been the destruction; far swifter and even more complete than that which has overtaken the incalculable number and variety of beautiful creatures, indigenous to the South African veldt, although that continent also has lost several species for ever.

The possibility of restoring the bison to the American prairies has been vigorously taken up by Major Gordon W. Lillie, who is distinguished by the sobriquet of 'Pawnee Bill.' For several years he has devoted himself to encounter the difficulty which always has to be faced in attempting to rescue from utter extinction a race once exceedingly numerous and prolific, when it

has been reduced to very few in number. The debilitating effect of inbreeding may be seen in the white cattle of Cadzow Forest, and, in a slighter degree, in those of Chillingham Park. Pawnee Bill has come to the dispiriting conclusion that it is vain to attempt restoring the pure breed of bisons. His only hope lies in mating them with the best individuals of the nearest domesticated strain, and after experimenting on fifty-three pure-bred bison cows in his own herd, he pronounces the best strain to be the polled black Galloway. This variety much resembles the polled Angus, but is rougher in the coat and bigger in bone. In crossing bisons with Galloways, the wild race proves to be the dominant strain, the offspring having the small, wiry flanks of the bison, with its heavy fore-hand and neck, and producing a long, silky, glossy coat, slightly darker than a genuine buffalo robe.

So far, so good; for the cross has proved fertile; but there remains an essential which cannot be so easily supplied. Pawnee Bill declares that buffaloes will not thrive without the true 'buffalo grass' which covers the great prairies upon which they once roamed, especially the Great Staked Plain. To the want of this grass he attributes the dwindling of the herd preserved in Yellowstone Park, reduced in 1906 to twenty-nine animals. Now whereas no ordinary farmer can afford to acquire and preserve a tract of this peculiar pasture, Pawnee Bill invokes the intervention of the United States Government to buy up a breadth of the Great Staked Plain, where land is to be had at a nominal figure, and thereon to perpetuate the native bison. He

has presented a Bill to Congress for this object, and all lovers of wild life must unite in wishing him success in his enterprise.

XLIX

The Médoc

No Englishman—none at least with a fair smattering of the history of his own country—can visit the famous district of the Médoc in the golden sunshine of September and fail to sympathise with the passionate tenacity with which English kings and statesmen clung to their heritage in that opulent land at the cost of the Hundred Years' War. To realise its richness, one should be there during the vintage—the claret vintage, I was about to say, but 'claret' is a word unknown to the French cultivator. The term *vinum claretum*, i.e. clarified wine, came into early use in English as 'claret' or 'clairy,' to distinguish the beautifully pellucid wines of Bordeaux from those of Burgundy and other vine-lands. Except during the vintage, the features of the country are tame. League upon league of gently rolling upland, bounded on the east by the tawny estuary of the Gironde, weary the eye in winter with their brown monotony—in summer with their unbroken dark verdure. Vine-land, in truth, during eleven months of the year is as little attractive as any prospect under the sun. Scarce a tree to break the winter blast or temper the summer heat. The vines themselves are pruned down to exact uniformity of stature; no hedgerow timber is permitted, and the skyline is broken only by rare and exiguous groves round the châteaux and by the grey clustered roofs of

some hamlet crowding round the bell-tower of a church. Châteaux there are, indeed, plenty of them, but not on the lordly scale of Langeais or Chenonceaux, nor bosomed in far-stretching woodland, as at Chambord or Chevernay. The soil is far too valuable to be wasted in mere amenity; every square yard of ground that will grow a vine is made to do so; the very roads that thread the verdant expanse like white ribbons are shorn of their margins, and many a château whereof the name has become a household word in England has no more park or pleasure-ground than a villa in suburban Hampstead.

As residences, they impress one unfavourably compared with English country homes. There are no shady lanes or heathy commons, no shaggy hillsides or wealth of wayside flowers. Once, and once only, have I come upon a bit of hedge, about twenty yards in length, overgrown with brambles, loaded with such a wealth of fine blackberries as I ever saw within a like space. The intense cultivation oppresses one with a longing for wastefulness. But in truth these châteaux are rather magazines than mansion-houses. Their owners may sojourn for a few weeks during the vintage, but the principal buildings in the enclosure are the *cuvier* or press-house and the *chaise* or wine-stores.

Some of the most famous of these vine-lands are of very trifling extent. The quality of soil in the Médoc varies in the most capricious manner. The stranger may look in vain for any external signs of difference; it looks much the same to him all over—a friable, reddish, gravelly loam; yet this side of a low ridge

may produce a first growth wine, and the other side may yield nothing but *bourgeois*—that is, unclassified wine. Thus the world-renowned Château Lafite is but a farm of less than 180 acres in extent, yet the grapes grown thereon possess such an exquisite virtue that in 1868 the Rothschilds purchased it for £180,000—more than £1000 an acre. Ten years later, when claret was at the height of favour in England, the average annual production at Château Lafite was estimated at seven hundred and twenty hogsheads, worth, in a good year, about £47,200. Reckoning three-fourths of these gross receipts as absorbed by wages, renewal of stock, repairs, and other expenses, there remained a balance of £12,000 to meet interest on the purchase money at four per cent., equal to £7200, and £4800 clear profit besides. Here was a net return of £70, 12s. per acre. Probably no other agricultural land in the world could show financial results equal to those obtained from the estate of Château Lafite and the three other 'first growth' vineyards of the Châteaux Latour, Margaux, and Haut-Brion.

Most of the châteaux have their names proudly carved on arched gateways abutting on the high road. Travelling north by motor from Bordeaux, through the Commune of Margaux, into that of Saint Julien, one reads many an inscription familiar enough in wine merchants' lists. Château Beycheville recalls the days of *le Roi Soleil*, for it belonged of old to the Duc d'Epernon, who, as Lord High Admiral of France, claimed a salute from every vessel passing up or down the Gironde, which salute was performed by

lowering topsails; wherefore, it is said, the sailor-men called it Château Baisse-voile; but I am not to be held as endorsing this dubious piece of etymology.

And so forward by Château Langoa, passing Latour and Lafite, as we enter the commune of Pauillac, by Mouton-Rothschild, Pichon-Longueville, Gruard-la-Rose, the two Léovilles, into the district of Saint Estèphe, where a host of familiar names may be noted — Cos-Labory, Cos d'Estournel, Pontet-Canet, and so on.

If the grinding of corn is admitted to be, probably, the oldest human industry, that of wine-making seems entitled to the second place. To one standing in one of the great steam flour-mills of Liverpool or Cardiff, watching the multiple and complex machinery whereby the raw wheat is converted into the finest flour, it may occur to muse on the vast development of the industry from the primitive method of triturating grain by hand-rolling one stone upon another, as may still be seen practised by the women of many savage nations.

On the other hand, the wine-press remains in all essential features the same simple affair as the earliest literature shows it to have been. A few mechanical conveniences have been devised and adopted in some, not all, of the vineyards of France—the *égrappoir*, for instance, which is a machine outwardly resembling a turnip-slicer, and which, driven by hand, strips the grapes from the stalks before they pass into the press. Also, in the larger *cuviers* or wine-sheds the press itself is now usually constructed so as to run upon rails laid in the floor, and to discharge the precious

juice direct into one or another of the great vats below. Then delicate instruments have been invented for testing the sweetness and strength of the 'must' or fermenting juice; but steam and electricity—agencies which have transformed so many industries—bear no part in the manufacture of claret or burgundy, wines which remain, as they always have been, the pure, unmixed juice of the grape, chemically altered, indeed, by fermentation, but owing none of their character to added material, such as has to be used in making the wines of Spain and Portugal. The grapes of the Peninsula are so much sweeter than those of France that fermentation must be checked at a certain stage by the addition of spirit, which increases the strength of the wine and makes it a compound instead of a simple beverage.

One has to remain long enough in one of the great wine-producing districts of France to understand the magnitude of the industry and its importance to the country before he can realise the disaster which overtook one district after another, and many districts simultaneously, in the visitation of the vine-louse. One cannot pass through this scene of universal, feverish industry—one cannot watch the rows of men and women at work, waist-deep in thick foliage, the great, patient dun oxen, 'strong to labour,' the carmine stream flowing from the *pressoir* into the vat—without remembering how all this fruitful toil was arrested throughout the whole district for several years by one of the most insignificant of living creatures.

It was about the year 1875 that the vine-louse,

Phylloxera vastatrix, first made its presence manifest in the Médoc. This creature is not indigenous to the Old World; it is a native of North America, whence it was imported among some American vines about the middle of last century. It belongs to a family closely akin to the Aphides and Chermes, but is destitute of the apparatus for secreting honey-dew, which distinguishes that race of parasites.

Like the Aphides, the *Phylloxera* assumes different forms in a fixed cycle of generations. Winged females appear in August and September, each of which lays three or four eggs on the under surface of a vine leaf, whence are hatched wingless males and females. Thus far the vine-lice are harmless, for in these two generations they have no piercing or sucking organs. The wingless female contents herself with laying a single egg on the bark of the vine, and dies. The eggs do not hatch till the following spring, when mischief begins in earnest. The third generation, also wingless, descends into the earth, pierces the roots of the plant, sucks its juices, and propagates itself with such amazing fecundity that, according to a writer in the *Agricultural Gazette* for September 1887, the descendants of one of these wingless females may number 62,500,000,000 at the end of the third generation. And whereas there are born five or six generations in a single summer, it may be well said that their numbers defy calculation. These minute pests (a full-grown female is only 1-25th of an inch long) make such a drain on the plant that its roots become warped and wasted, the foliage withers, and death follows sooner or later. It has been reckoned

that the invasion of *Phylloxera* cost the people of France in thirteen years — 1873 to 1885 — about £400,000,000 sterling, just about twice as much as the war indemnity exacted by the victorious Germans in 1871.

How was the mischief stemmed? How has it been brought about that the Médoc, which was a blasted wilderness five-and-twenty years ago, is now as fertile as ever, and that when I drove for forty miles north from Bordeaux last September (1906), it was through one continuous vine-field, where the exquisite bloom upon the bunches and the deep verdure of the vine foliage betokened the highest culture and the utmost vigour of growth?

The answer is found in one of the romances of natural history. Among many chemical materials applied to destroy the swarming parasites, the most effective was proved to be sulpho-carbonate of potassium, with a solution of which the soil had to be saturated. The cost of this remedy, however, was prohibitive to all except the owners of such soil as produced a very high quality of wine. Small cultivators, and those whose land produced wine commanding a price of only from £6 or £7 a hogshead, could not afford to employ a remedy which the Bordeaux conference of 1881 reckoned to cost £11, 4s. per acre the first year, and £8 per acre the second year.

Deliverance came from the quarter whence it might have been least expected. The grape-vine, whereof so many varieties are cultivated in Europe, is not native to any part of that continent, but is the development

of a purely Asiatic species; but North America owns four native species of vine capable of producing wine. It was among these that *Phylloxera vastatrix* was first recognised in 1854, and it was through imported American vines that this terrible scourge obtained a foothold in Europe. The superior vigour of the American species, and the fact that, although far from immune from the *Phylloxera*, they sustained the parasite without perceptible loss of vitality, suggested their use as stocks whereon the more delicate European varieties might be grafted. The experiment, though costly, has proved completely successful. The old favourite varieties in the claret districts—Cabernet-Sauvignon, Malbec, and Merlot vines — unite kindly with their transatlantic cousins, and now produce their purple clusters as freely and as delicately flavoured as of yore. The New World, which at one time seemed to have ruined one of the principal industries of the Old, has come gallantly to the rescue and atoned for the injury inflicted by providing an effective remedy.

Whether or not the foreign stock has affected the French scion so as to alter the fine quality of the wine is a question upon which experts are not yet agreed. This much is pretty certain, that no claret has been produced equal to that of 1875, the last year before Phylloxera ravaged the Médoc.

L

Among the meteorological *notanda* of the present season (1907), the following is not the least remarkable. On the night of September 3-4, in a garden not more than thirty or forty feet above the sea, and within three hundred yards of tide-mark, situated on the south-west coast of Scotland and in latitude south of Durham, the dahlia blooms were blackened by frost. The district is a peculiarly mild one; so much so that I have it noted of a previous season that heliotropes were blooming in the open border on December 4, and the earliest blossom of snowdrop was gathered on the 19th.

A sunless Summer

The persistent rainfall of the summer we have just shivered through, although destructive of garden brilliancy in general, has acted as a strong stimulus to certain flowering plants. Herbaceous spiræas have seldom been so fine or lasted so long; herbaceous phloxes have attained a stature and brilliancy quite unusual; and roses of the Rambler type, whereof Dorothy Perkins is the unchallenged queen, have prolonged their blooming season to an extent never before experienced. Even now, at the very end of September, these roses are wreathed with blossom, although usually considered as summer-flowering varieties. Alstromerias, as a rule, have but one fault, their lovely, lily-like blooms are so fleeting; but last summer they endured for many weeks, although natives of a land which we usually associate with torrid suns and baked soil. But these, like many

Chilian herbs and shrubs, take most kindly to our cool loams and cloudy skies.

The latest importation of importance from Chile is a forest tree, which Mr. H. J. Elwes, who collected the seeds some years ago, describes as attaining a great stature and being of commercial value. It is a beech (*Fagus obliqua*), and has proved perfectly hardy, at least on the west coast of Scotland, during the trying winter of 1906-7.[1] As a young tree, the growth is most graceful, the foliage being smaller and more delicate than that of the European beech, and the young sprays being of an agreeable ruddy tint. Whether the timber produced in this country will prove equal in quality to that in the natural forests of the Andes remains for a future generation to decide; but at all events, this beech is a noteworthy addition to our list of ornamental trees.

[1] It has taken no harm in the two winters following, and is growing strongly (July 1909).

October

LI

'THE structure and effect of the wing, in its relation to birds, finds a parallel in that of the beak—this organ of birds so wonderful in its variety. If we look at a long list of birds, we are met with a variety of beaks that seem to resemble a collection of tools. . . . Let us take as extremes the tiny beak of the little long-tailed titmouse, which is smaller than a grain of rice, and that of the spoonbill, which is large and spoon-shaped; between these two extremes we have the greatest variety of forms and modifications, which may be characterised as follows:—The bill of the chiff-chaff is almost as fine as a needle, and is suitable for seizing the smallest and most delicate insects; on the other hand, the bill of the hawfinch is so powerful that it breaks the hardest cherry-stone with ease. The tip of the woodcock's bill is a borer, forming an apparatus of touch, and when the bird bores into the ground, the apparatus, like a man's finger, enables it to trace the buried food, whereas the beaks of birds of prey are constructed for tearing flesh or dividing, and, consequently, are hooked and hatchet-like.'

The Cause of the Birds

The above extract is taken, not, as might be supposed it was, from a popular work on ornithology, but at random from a treatise written by direction of the Hungarian Minister for Agriculture, M. Ignácz de

Darányi, and published by the department over which he presides. Literature of this kind is not usually found in blue-books, and the Hungarian Parliament, it may be thought, has tougher work before it than dissertations on titmice and flycatchers; but M. de Darányi knows his business as Minister for Agriculture in a country which, unlike our own, regards agriculture as the premier industry, and he shows good case for modifying the well-worn adage *De minimis non curat lex.* 'Mony pickles maks a mickle,' runs the old Scots saw. Insect-eating birds may be individually diminutive, but compose in the aggregate a beneficent host which, as it passes to and fro over Europe in the seasonal migration, ought to be greeted with gratitude and protected on its journey, instead of being slaughtered in millions for the market as diligently as if it consisted of destructive vermin.

M. de Darányi's object in this interesting and remarkable publication is (1) to give a synopsis of the steps which have led to the signing of an international convention whereby eleven European States—to wit, Austria and Hungary, the German Empire, Belgium, France, Spain, Greece, Luxembourg, Monaco, Portugal, Sweden and Norway, and Switzerland—have bound themselves under sixteen articles for the protection of birds useful to agriculture; (2) to call attention to the infinite service rendered to agriculture by numerous species of birds; and (3) to show how fruitless would be independent action taken by individual States in dealing with a class of creatures so mobile and regularly migratory as birds.

The movement, a strictly practical one, not to be attributed to any sentimental or humanitarian impulse, took its rise in 1868 among German farmers and foresters, who, perceiving the enormous increase of injurious insects coinciding with a sensible decrease in the number of birds, petitioned for international action to stop the mischief. It took a long time to persuade most of the foreign Governments that they had any common interest to serve by concerted action, but facts proved convincing in the end; crops suffered more and more from insect pests in proportion as the birds which should keep these in check were persecuted. At last, in 1895, there assembled at Paris, on the invitation of the French Government, representatives of seventeen European States to consider proposals for international co-operation in the protection of useful birds. Mr. Howard Saunders, Mr. Dundas-Harford, of the British Embassy in Paris, and myself were appointed to represent her late Majesty's Government. A protocol was drawn up and agreed to by the delegates of all the States represented, except Italy, the same to be submitted for the approval of their respective Governments, and that protocol contained practically the provisions of the Convention, which was finally ratified in 1902.

From that Convention the Governments of Great Britain, Holland, and Russia withdrew, although its policy and provisions received the support of their representatives at the Paris Conference. The chief reason for Great Britain so holding aloof was that her Parliament, by various Wild Birds' Preservation Acts,

had already carried into effect most of the measures which the other States were binding themselves to do. Moreover, wild birds, at least singing birds, are not persecuted for food in the British Islands as they are in many European countries, and ample powers have been put into the hands of County Councils to check the ravages of professional bird-catchers.

Nevertheless it is to be regretted that Great Britain should appear to desert the cause of bird protection by declining to subscribe to the International Convention. There is, indeed, crying and growing need for a remedy against the evil of wholesale netting at night, which has already practically exterminated ruffs and reeves on our coasts, and is now working sad destruction in the flocks of that most useful bird, the lapwing. We require the prohibition, to which the subscribing States have bound themselves under Article III. of the Convention, viz. :—

'The construction and employment of traps, cages, nets, nooses, lime-twigs, or any other kind of instrument used for the purpose of rendering easy the wholesale capture or destruction of birds, shall be forbidden.'

Discrimination between useful and hurtful, protected and unprotected, birds is impossible in using long and high nets set up on poles after dark on the shore and mudflats for the capture of wild-fowl. The use of these is extending in this country, and will soon render many desirable species scarce which are still plentiful.

The Italian Government announced at the Paris

conference their inability to enforce any restrictions upon bird traffic in their dominion. The abstention of Italy is a far more serious misfortune than that of Great Britain, for not only is Italy a main *point d'appui* in the seasonal migration, but her whole population, unlike the people of this country, rely on birds of passage as a food supply, and keep a keen look out for their appearance. Hence, although the Italian Government was, and is, alive to the magnitude of the evil, and is willing enough to co-operate in remedying it if that were possible, they have been obliged to confess their helplessness, owing to the ingrained habits of their people.

The nets used in Italy are on the principle of a fisherman's trammel. Decoy birds, blinded with red-hot wires, are used habitually, and the nets often measure a kilometre in length.

'The largest kind . . . may be found in the district between Lago Maggiore and Lago di Lugano, and covers an area of 1 to 1½ square kilometre. Tall reversible poles tower towards heaven; on these, in small cages, are the blinded decoy birds which are to entice their feathered relatives from a height. Among the poor blinded creatures were goldfinches, linnets, greenfinches, redbreasts, occasionally the rare ortolan also, accentors, sparrows, and thrushes. Although it was late autumn already, one cast of the roccolo (a sham hawk) took 100 goldfinches, then another 100 thrushes and 50 or 60 chaffinches; then 17 accentors and 21 willow wrens. An ordinary morning's taking was 500 birds; but in September the ordinary bag was up to 2000—on one day no less than 800 redbreasts.'

These birds were not reared in Italy; they were

coming from the north of Europe, many of them from the British Isles, on their journey to sunnier climes. It is not in Italy alone that this dire destruction is being wrought. The Balkan States are not included in the Convention, and facilities of transport have encouraged professional bird-catchers to station themselves all along the lower Danube and on the African coast, whence they consign tons of small birds to the great consuming centres. In October 1890, 8829 quintals (423,800 birds) of fly-catchers, warblers, pipits, and titmice were enumerated in passing the frontier at Brescia. Near Montegrado, 14,000 swallows were taken in three days, and the take at Crao in a single season was reckoned at three million swallows.

To another category belong the 400,000 pairs of larks' wings supplied from Finland to a single fashion shop in Paris.

Under the Convention the contracting States undertake to legislate for the complete stoppage of this kind of traffic. Let us hope that the necessary laws may be speedily passed and stringently enforced.

LII

Cord-Grass

The *Kew Bulletin* (No. 5, 1907) contains a paper of much interest, not only in its general bearing, upon coast erosion, upon which a Royal Commission is now sitting, but as concerning all those who own land upon muddy estuaries. The subject of the paper is the cord-grass (*Spartina stricta*) which appears to have made its way to this country from the Atlantic

coast of North America and to have established itself abundantly in the Hampshire estuaries with beneficial results. These results may be set to the credit of our transatlantic cousins to balance the mischief arising from their loan to us of the Canadian pond weed (*Elodea canadensis*). The traditional origin and local effects of cord-grass, which the Hampshire folk call rice-grass, were described as follows by Lord Montagu of Beaulieu in his evidence before the Royal Commission :—

'The mudbanks on my property have recently been increasing very rapidly. The accretion is due to a somewhat extraordinary fact. Some years ago a ship came up Southampton Water from the River Plate with a quantity of rice-grass on board. The seeds of this grass became distributed about the shores of Southampton Water, with the result that the whole of that estuary is now covered with this grass. It is a plant which grows very rapidly and spreads in circles, and now the twenty miles from Hurst Castle to Southampton are covered with this grass, as are the mudbanks on my foreshore. The stiff and sharp points catch the seaweed which comes over it, causing the bank to increase rapidly in height.'

In a discussion following a lecture on the protection of seashores from erosion, delivered by Mr. A. E. Carey before the Society of Arts, Lord Montagu stated that no cord-grass existed on the mud-flats of Solent ten years ago (although it has been known for at least a hundred years on both banks of the Itchen between Itchen village and Northam Bridge), and he estimated the area now covered and protected by this plant at from 6000 to 8000 acres. There are two varieties of

cord-grass, which some botanists distinguish as species. Both of these are found on the Hampshire coast, the kind known as *Spartina alterniflora* being the most luxuriant. Birds of many kinds delight in the seeds; despite its rank and disagreeable smell, cattle eat it greedily, and, so long ago as 1836, Dr. Bromfield stated that "it is regularly mown at the end of September, at which time large quantities may be seen lying on the shore to dry, previous to carting. Hardly a single accessible patch, either on the upper or the lower station, is suffered to remain uncut, so that it is a plant of real economical utility.'[1] Bromfield quotes the tradition of the grass having been brought over in a ship's cargo, but this is a common way of accounting for the local occurrence of exotic plants. The presence of a colony of caraway (*Carum carvi*) on the west coast of Scotland was explained to me many years ago as the result of a shipwreck, but this plant occurs in many parts of the British Isles, having been cultivated from very early times for its aromatic seeds. If it be not truly indigenous, it has become thoroughly naturalised. Inasmuch as this cord-grass is found growing in various detached places on the coasts both of the North Sea and the Mediterranean, its transport to Europe from America may be attributed with probability to the action of wind and wave. Now that we have got it, it is our own fault if we do not make use of its land-forming properties.

[1] *Companion to the Botanical Magazine*, i. 254.

LIII

Nature never designed a more successful form of life than the Rodents or Gnawing Animals, which include a greater number of species than any other order of mammals, and are found indigenous to all parts of the world from Ultima Thule to Madagascar and Australasia. At first sight it might appear that the distinctive feature of these creatures—the pair of curving incisors or front teeth in each jaw, constantly growing and requiring to be as constantly ground down by gnawing—would be a hindrance rather than a help in the struggle for existence. The majority of men have imposed upon themselves the task of daily shaving, but the only inconvenience arising from one who suspends or neglects that operation is shrill remonstrance from his feminine acquaintance—women being the most conservative of created beings. But if a rat or a rabbit were to spend a day or two without gnawing, its irrepressible front teeth would grow to an unmanageable length, so that it could not use them when it would, and must die of starvation.

Rabbits

What, then, does a rodent do when there is nothing to gnaw? We are told in Leviticus xi. that 'the hare, because he cheweth the cud, but divideth not the hoof, he is unclean unto you'; and most outdoor folk will assure you that hares do chew the cud. But Mr. J. G. Millais, that most patient and scrupulous of field naturalists, having devoted careful observation to this question, has come to the conclusion that the hare neither does nor can chew the cud, and that the

munching action which has been mistaken for that process is merely grinding the teeth to keep them from growing too long.

There can be no doubt that, were the whole race of rodents expunged from animated nature, human interests would be greatly benefited. The flesh of hares is succulent, and they afford pretty sport, despite Mr. Jorrocks's depreciatory remarks about coursing; rabbits are well enough in a pie, and shooting them has a peculiar zest derived from the knowledge that every rabbit killed is so much service done to the farmer and the forester. But when all that has been reckoned, what remains to the credit of rodents? A few pretty squirrel skins and other small furs, against which must be set the devastation wrought by rats, mice, voles, lemmings, etc.

Consider what is probably the annual cost of even a moderate stock of rabbits on an estate. Attention has been drawn at last—better late than never—to the condition of British woodlands and the deplorable neglect of our forest resources. Landowners are beginning seriously to consider planting as a source of revenue, and to calculate the possible return upon capital sunk in that operation. In hardly any district can protection against rabbits be dispensed with, and to provide wire netting for that purpose is a considerable addition to the initial cost of planting, for it cannot be done for less than 6d. a running yard. To enclose a single acre in a rectangle takes 280 yards of four foot wire netting, and costs £7—from 100 to 150 per cent. on the cost of planting. Of course the cost is proportionately

diminished if a considerable area be enclosed in a rectangle; but even so it adds very seriously to the outlay. Thus if a rectangular area of 64 acres is to be planted, it will take 2240 yards of wire netting to protect it, costing £56, or an extra charge of 17s. 6d. per acre.

It may be said that it would pay the proprietor better to destroy all the rabbits on his ground. Doubtless it would, but how shall he protect himself from invasion off adjoining lands? Rabbits have fine powers of locomotion, travelling far in search of food and comfortable quarters. You may destroy every rabbit in your woods; it only requires the arrival of two or three courting pairs to drop in from your neighbour's ground, to ensure you a full stock in eighteen months. For the fecundity of rabbits is prodigious. A strong doe will produce five or six litters of six or eight each in a single season, and her daughters set about making her a grandmother when they are six months old. Moreover, you cannot reckon upon your tenants joining you in a crusade of extermination. The very farmers whose bitter and just complaint brought about the Ground Game Act of 1880, now often looks with a jealous eye upon their landlord if he exercises more than his equal share in the joint right of killing rabbits; so there is less chance than ever of a successful co-operative effort to exterminate these pests, and to confine them to their proper place—the enclosed warren.

The provoking part of the business is that man himself is responsible for the mischief. Rabbits are not indigenous either in the British Isles or in the greater

part of Europe. The Spanish peninsula is their reputed ancestral home, though there is a good deal of doubt in this matter. In Scotland they existed in but few places a hundred years ago, and lairds were foolish enough to transplant them to their 'policies' as a desirable acquisition. And as if matters were not bad enough at home, we must needs inoculate our colonies in the southern hemisphere with the plague. Nature, who had confined the *Leporidæ* or Hare family to the Palæarctic and Nearctic regions of the globe (except a single species *Lepus braziliensis* found in South America) has avenged this infringement of her dispositions with widespread calamity. Thousands of fertile acres have been converted into desert by the swarming hordes. Messrs. Robertson of Colac, Victoria, claim to have cleared their own ground at a cost of £20,000 by employing Scots trappers and building up the burrows with bricks and mortar. Other people imported foxes, ferrets, cats, stoats, and other foes of the rabbits; but bunny still flourishes, though much of the interesting native fauna has disappeared. The very dogs soon became indifferent, ceasing to pay any attention to animals which their inordinate numbers divested of all sporting interest.

Mr. W. Rodier succeeded in ridding his land in New South Wales of rabbits by a remarkable device. He observed that whenever buck rabbits exceed the does in number, they kill all the young ones, apparently to prevent a new generation of rival suitors coming on the scene. Then they persecute the does to such an extent with their marital attentions that these cease

to breed and finally die out; the bucks themselves finally dying in the natural course of things. Mr. Rodier, therefore, about twenty years ago, enclosed the whole of his land with wire-netting, caught alive all the rabbits he could, killing the does and setting the bucks at liberty. The rabbits killed themselves out. 'He can now ride over the whole of his run and hardly see a rabbit, while his neighbours' lands are still swarming with them.' In the *Field*, January 15, 1903, was given a photograph showing the luxuriant growth within Mr. Rodier's enclosure, and the desolated country outside. This plan may be commended to the Office of Woods in relation to their newly acquired estate in Argyllshire, where it is intended to start scientific State forestry.

Within the proper limits of a warren, rabbits are desirable enough. The highest practical authority on the management of warrens is Mr. Lloyd Price of Rhiwlas. On a single day, in 1885, he and his party shot 5086 rabbits; but that bag was exceeded at Blenheim a few years later, when the almost incredible number of 7000 were slain. Two points in management seem to be essential to the healthiness of the stock in a warren; first, clean, dry food, which may be secured by placing hay in low racks instead of laying it to be trampled and fouled on the ground; second, to kill off nearly all the stock before Christmas, introducing fresh breeders after the ground has had a couple of months' rest. Turnips should never be given as food, for they cause the animals to die of dysentery.

Naturally a timid, even a craven, animal, there are

moments when the rabbit exhibits remarkable courage, especially in defence of its young. One of its chief enemies is a fellow-rodent, the grey rat, which devours little rabbits in the nest during the absence of the mother-doe. But let the assassin beware of being caught in the act, for a full-grown rabbit is more than a match for a rat. I once saw a large rat as hotly pursued by a wild rabbit (presumably a doe) as ever hare was by greyhound. The rat was squealing with terror; the rabbit caught him within three yards of my feet, planted her sharp incisors in his back, and shook him like a terrier. Finally, the rat escaped, badly mauled, and limped away to the shelter of a rhododendron hard by, while the rabbit hopped away home to give the youngsters their supper.

LIV

Toads

A correspondent in the Midlands wrote to me lately (1907) inquiring whether it was a usual thing to find hibernating toads with their mouths hermetically sealed. Three, said he, had been dug up in his garden lately in that condition, their lips being so firmly closed that nothing less effective than an oyster knife would prevail to open them. Not having observed this phenomenon myself, I forwarded the letter to our highest authority on reptilian and batrachian life. He replied that he was perfectly familiar—not with the phenomenon, indeed, but with letters and statements from persons claiming to have observed it. The mistake, he explains, arises from a

want of knowledge as to the exact position of a toad's mouth, and he undertakes to open the mouth of any toad at any time of the year; not with an oyster knife or any other lethal weapon, but simply by inserting his finger nail.

The belief that the lips of a toad grow together in winter probably will die as hard, if ever it dies, as the fable of toads, hermetically immured in solid rock since the carboniferous age, crawling away with all their faculties, physical and mental, in a state of perfect efficiency so soon as they are released by the quarryman's hammer. One who realises what is involved in such a resurrection has to put restraint upon himself when, as happened to myself not very long ago, an educated person claiming to have acquaintance with natural history, solemnly assures him that he has actually seen a block of sandstone split, and that within the block was a full-grown living toad. On the occasion referred to, I kept silence. Two or three other men were present; the narrator had not the least intention to deceive or exaggerate; it was not consistent with the laws of hospitality to declare that to be impossible which a fellow-guest stated he had seen with his own eyes; and so the innocent falsehood was propagated. Innocent as much in effect as in intent; because nobody with any acquaintance with biology and physiology could possibly be misled by it, and to those able to digest it no greater harm can come than befell our forefathers from the belief that wild geese were hatched from barnacles. That belief died pretty hard; but dead it is, whereas the toad fable seems destined to immortality.

Its origin is not difficult to discern. Toads hibernate regularly; at the first hint of autumn frost they creep into convenient holes and crannies, and doze away the months till daffodils begin to peer, wasting little tissue because they take no exercise, don't worry their brains with perplexing problems, and have no cause for apprehension from the Chancellor of the Exchequer's next budget. Sometimes they fall down coal mines, and survive the shock. Finding subsistence there precarious, consisting of such insects that may have been similarly entrapped, they may economise tissue by premature hibernation, and when one is discovered ensconced in a block of coal, the old story is revived—the reptile is hailed in newspaper paragraphs as a survival from the age of the coal measures.

Frank Buckland honoured the myth by putting it to practical, if somewhat heartless, test. Taking two large blocks of stone, one of porous limestone, the other of impervious sandstone, he caused twelve deep holes to be bored in each, and in every hole he placed a healthy toad, closing the holes hermetically with glass, and then burying the blocks deep in the earth. After the lapse of a year and two weeks the blocks were exhumed. The toads in the air-proof sandstone were all dead and decayed; so were two or three of those in the porous limestone; but the majority of these last were alive, with their eyes open. Strong must have been the temptation to release them and give them a restorative breakfast of creeping things; but science is very remorseless when in quest of truth. Buckland buried them again. At the end of

eighteen months of imprisonment all had died of starvation.

Toads have suffered much from man in the past, owing to the unjust inference that such an ugly, crepuscular creature must be noxious. It is quite true that, like many of the *Amphibia*, they possess a protective poison, but they are quite incapable of spitting it at a supposed enemy. A powerful venom is contained in the warts on the upper parts of the body, each of which has an open poison gland, whence a milky secretion exudes when the animal is crushed or wounded. This poison has no ill-effect upon toads of the same species; but Mr. Hans Gadow has found that individuals of different species of the same genus, if brought into forcible contact, as in a collector's bag, may cause each other's death. Gardeners have learnt to encourage the presence of toads in their borders, knowing their diligence in consuming slugs, earwigs, wood-lice, and other undesirable colonists. Nor need the gardener fear injury to his children, provided the children do not torment the toad. But let them be warned against the custom, which once prevailed in some country districts, of mutilating toads or putting them to a painful death, for such cruelty may entail a fitting punishment by causing a copious discharge from the poison glands and severe suffering to the tyrant.

The poison of *Amphibia* is of a peculiar nature; that of the common toad being held by some authorities to be an acid and by others an alkaloid. It is explained as acting upon the heart through the nervous

system. Few unprofessional persons, I fancy, would care to emulate the intrepidity of the late Miss Ormerod, who, desiring to verify or disprove the traditionary poison of amphibians, bit the back and tail of a lively specimen of *Triton cristatus*, the gaily-coloured crested newt of British horseponds. Proof was so convincing as to have no need for further experiment. The first effect was a bitter astringent feeling in the mouth, with irritation of the upper part of the throat, numbing of the teeth more immediately holding the animal, and in about a minute from the first touch of the newt, a strong flow of saliva. This was accompanied by much foam and violent spasmodic action, approaching convulsions, but entirely confined to the mouth itself. The experiment was immediately followed by headache lasting for some hours, general discomfort of the system, and half an hour after by slight shivering fits.

As a protective agent the poison of amphibians operates only in the interest of the race, not like the spines of a hedgehog or the battery of electric flashes in that of the individual. 'A dog,' says Mr. Gadow, 'that has once been induced to bite a toad suffers so severely that it will not easily repeat the experiment'; and it may be supposed that an aversion to toads may be hereditarily transmitted through generations of dogs. Certainly it is difficult to account otherwise than by heredity for one's own shrinking from certain reptiles. Not one civilised man in a million has been bitten by a snake, yet the warning hiss takes immediate effect upon everybody. Whenever I meet a toad

within easy reach of the garden, I transport him thither; yet, knowing as I do that the creature is absolutely powerless to direct the contents of its poison glands against me, I cannot overcome an unreasonable repugnance to handling it.

The race of toads certainly requires some special provision for defence, seeing how destitute of armour they are at all stages of existence. Nature gives our native *Bufo* a good start by endowing Mother Toad with prodigious fecundity, enabling her to lay from 2000 to 7000 eggs at a birth. Nobody knows what becomes of the hordes of toadlings which, having passed from the tadpole stage in about the twelfth week after the eggs were laid, leave the water and escape into the herbage. It takes them five years to attain maturity, but only an infinitesimal fraction can do so. What becomes of the rest, and what is the cause of mortality? The grass snake is the only vertebrate creature known to be capable of digesting a toad, and grass snakes are rare in Britain. So are toads, relatively to the multitudes hatched annually.

Of the afflictions to which adult toads are subject a heartrending synopsis is given in the *Cambridge Natural History* (vol. viii. p. 176). The Russian entomologist Portschinsky has elucidated much. Not only British, but Australian and other foreign toads are persecuted by certain loathsome species of flies, which lay their eggs in the nostrils of their victim, whence the maggots eat their way into the brain, causing locomotor ataxy and ultimate death. Some of these

maggots lose their way and enter the eyes of the toad, but die in those unsuitable quarters, not, however, before destroying, or greatly impairing the sight of their luckless host.

It is not to Nature that we must turn for lessons of loving-kindness and altruism. Each for himself is the dominant rule in her code.

LV

The Great Spotted Woodpecker

Readers must have wearied ere now of my persistent howls over the senseless slaughter of rare and beautiful birds; but the attention of the public is hard to gain. To make oneself heard amid the complaints about matinée hats and the motor nuisance, one must howl loud and long. For the present I refrain from making my special grievance prominent by interrupting the platform eloquence of Cabinet Ministers. The success of that method is not yet apparent; should it become so, one may be driven to adopt it in default of a better. What distresses one is that no editor will print those expressions which flow most readily from my pen in regard to perpetrators of the misdeeds whereof I complain; so I am constrained to bottle my wrath (which is very bad for anybody with gouty tendencies), and, stating the bare facts, leave the verdict upon them to a large-minded public.

The latest offence (October 1908) against the law of hospitality has occurred in a certain strath in central Scotland, which shall be nameless. It consisted in the

assassination of a great spotted or pied woodpecker; and if anything were wanting to darken the tragedy, it is supplied in the terms in which the local newspaper exults over the victim as 'a distinct novelty to the district, as they are very seldom seen in the strath.'

A distinct novelty! Then why not encourage it to remain? instead of which it is floored with as much eagerness as if it were a Bengal tiger harboured in the woods, and set up in caricature of its brightness and grace by the local bird-stuffer.

What makes this incident peculiarly distressing to true naturalists is that the great spotted woodpecker is beginning to reoccupy those haunts in Scotland which it frequented before the disappearance of the forests. It is believed to have become actually extinct previous to 1850, but is now thoroughly re-established as a breeding species in central, southern, and eastern Scotland. The question has arisen among ornithologists whence did these Scottish colonists come? Have they spread gradually northwards from England, or is it possible that they are a fresh and independent immigration from northern Europe? At first sight the English origin of these birds would seem most probable, for none of the woodpeckers are constructed for sustained flight, their pectoral muscles being very shallow, so as to enable them to cling closely to vertical surfaces. In this country one never sees them do much more than flit from tree to tree. But in the October number of the *Annals of Scottish Natural History* Mr. William Evans adduces evidence in

favour of the Scandinavian origin of some, at least, of the Scottish pied woodpeckers. The birds of northern Europe differ considerably in various dimensions from the English type. They have longer wings and shorter, stouter bills than the English birds, and there is a slight difference in coloration. Mr. Evans has examined three pied woodpeckers in breeding plumage recently killed in the south-east of Scotland, and refers them all to the English race; but a fourth, killed in December 1907, near Dunbar, has been pronounced by Dr. Hartert to be a 'most typical Swedish bird.' So also are two specimens in the Perth Museum.

We appear, therefore, to have two distinct lines of immigration; one a short and simple one, across the Cheviots, the other a long and hazardous one, across the German Ocean. It is to be hoped that the matter may be allowed to rest there. Most of us don't care a hayseed whence woodpeckers come to us, so long as they do come; and it would be intolerable if, to determine a point of less than secondary importance, more breeding woodpeckers should be done to death, as was the case in 1903, near Haddington, where a pair were shot at their nest, which contained four well-fledged young.

Those who have not examined an adult pied woodpecker closely can have little idea what a gay livery he wears. Black and white, laid on with a bold brush, are the dominant hues on the upper parts, but the breast is buff, the back of the head and the feathers about the vent are scarlet, and so are the irides.

There is a strange peculiarity about the plumage of nestlings. Like their cousins the kingfishers, and unlike the young of nearly all other genera of birds, their childish attire is as bright as that of their parents. Nay, brighter, for both sexes, during the first four or five months of existence wear gay scarlet caps set on the forepart of the head. At five months or so the feathers of this cap become discoloured, turning quite black eventually, not by a moult, but by the eclipse of the brilliant colour by the sombre. Next, at the back of the male bird's head, sparks of scarlet begin to appear, broadening gradually into a transverse band, and this he wears through life as one of his chief adornments. But on the head of the hen-bird the fire once extinguished is never rekindled. She has to go about her business in a plain black cap bordered with white. As to the purpose or significance of this freak of coloration it would be difficult to offer any suggestion.

The lesser spotted or barred woodpecker is even more showily attired than his greater congener, the wing coverts and scapulars being conspicuously barred with black and white. The cock bird wears a jaunty scarlet cap, but the hen's head-dress is plain white trimmed with black. I have only once seen this bird north of the Tweed. A male in fine plumage was captured and brought to me in a closed basket. It anticipated release at my hands by pecking a neat round hole through the side of the basket, through which it escaped and was seen no more. The barred woodpecker may inhabit a wood for a long time

without being detected, for it keeps habitually among the upper branches and tree tops. All the three British species of woodpecker are highly desirable, and their presence with us should be encouraged in all possible ways. The damage which they are accused of doing to growing timber is infinitesimal, and they are death to pine beetles and other injurious creatures.

November

LVI

A MISGUIDED thrush was vociferating outside when I was shaving this morning (November 1, 1908), endeavouring, I suppose, to persuade some credulous female that the time had arrived, not for anxious provision against approaching rigours, but for the manufacture of those sky-blue eggs which reflect the only rays of bright colour at any stage of the existence of this subfusc species. One can hardly be surprised at this bird blundering about the calendar, so warm and spring-like has the weather been ever since Michaelmas, so still the atmosphere and so brilliant the sunshine. Only on the night of October 25 has the mercury fallen to freezing-point, and to-day we have been gathering mushrooms, fresh and succulent, from the green 'heughs' bordering on Luce Bay.

A mild Autumn

The autumnal leaf change came very late this season, but its splendour is enduring longer, by reason that the prevailing anticyclone has warded off the assault of Atlantic storms. If there is one tree more beautiful than another just now, it is the Himalayan *Cotoneaster frigidus*. Most of the genus are mere shrubs, but this

one attains the stature of a small tree, possibly of a big one, for I speak with experience of nothing more than forty years old, and there are several here between thirty and forty feet high. It is semi-evergreen, but its glory consists in its fruit, with masses of which at the present time its branches are weighed down. It is neither scarlet, like holly berries, nor crimson, like haws, but an intermediate vermilion, making a perfect contrast with the foliage, which is of the flat, opaque tint represented by the pigment known to painters as *terra verte*. The berries are very bitter, and are scrupulously avoided by birds until they are driven by famine to consume them. Many of our high roads might be redeemed from monotony by planting this tree along the waysides, for it stands wind exposure well, casts no great shadow to collect damp, and, besides its berries, bears pretty corymbs of white flowers in June. Set alternately with laburnums, trees of much the same stature, the effect is very charming.

Talking of laburnums, they are behaving as irrationally this autumn as the thrush aforesaid. Many young trees in the woods here are quite thickly hung with golden tresses, to the detriment, I expect, of the display next Whitsuntide; for no tree can afford to burn the candle at both ends.

Quite the most brilliant shrub just now is an American beauty, *Vaccinium corymbosum*, which I obtained some years ago from Messrs. Veitch's Combe Wood nursery. Curiously enough, it was not its autumnal brilliance which first attracted me, for it was

in the month of June that I beheld it, a mass of myrtle green thickly covered with hanging clusters of pink bells. I thought it one of the loveliest things I had ever seen, never imagining that it was destined to eclipse with its intense fiery glow every other woodland flame. Moreover it has the merit of prolonged display, for no sooner is the blossom past in July than the young growths begin to kindle, and the fire spreads stealthily along the branches until it culminates in a conflagration which must be seen to be believed. This bush appears to be known to very few amateurs; but it is one to be sought after by the very elect. It takes the place in our humid atmosphere of *Nandina domestica*, which, although quite hardy, never in England, except on the sunniest parts of the south coast, flames out in the splendid way it does in southern France and along the Mediterranean.

The Japanese plantain lily, *Funkia ovata* and *subcordata*, are gorgeous beside woodland paths just now, their great leaves having turned to the clearest, brightest yellow, fully atoning for the rather dull tint of their lilac flowers in July. This plant has the merit of being unpalatable to rabbits.

LVII

Autumnal Flowers

George Bentham, nephew of the great jurisconsult, earned the gratitude of generations unborn by compiling his invaluable *Handbook to the British Flora*; but one is sometimes tempted to

mild indignation by the dry, unemotional phrases in which he describes the loveliest flowers, as if

> 'A primrose by the river's brim
> Dicotyledon were to him,
> And nothing more.'

No doubt he was right, for he who once begins to gush over the beauty of flowers soon becomes an intolerable bore. Still there seems to be something short of completeness in describing the primrose merely as having 'a corolla usually yellow or straw coloured'; the harebell as having 'a few elegantly drooping blue flowers,' and the sweetbriar as having 'flowers pink, usually solitary.' However, even Bentham betrayed a tinge of enthusiasm, in writing of the Heath family, 'which,' says he, 'comprises perhaps more ornamental plants than any other order.' We have come to the dullest time in all the outdoor gardener's calendar—duller than it need be because of the fashion which concentrates effort upon summer and autumn display. But in the west country at least, from Ross-shire to Cornwall, there need be no break in the succession of flowers, except there happen an early and severe frost, such as befell in the Novembers of 1905 and 1906. In the present season (1908) we have escaped any such affliction, and there is enough gay colour in border and shrubbery to tempt one along swimming paths and sloppy turf to enjoy it.

In mild districts there is no month in the year during which some member of the Heath family may not be had in full flower in the open air. The Cornish

heath (*Erica vagans*) flowered abundantly till the end of October, when its cousin, the arbutus or strawberry tree, took up the running; and yesterday, November 26, I stood beside another member of the family, *Rhododendron nobleanum*, fourteen feet high, bursting into carmine blossom strangely in contrast with the sober surroundings of early winter. This beautiful shrub, a hybrid raised many years ago between the Himalayan *R. arboreum* and *R. caucasicum*, seizes every favourable opportunity for flowering. In cold districts it does not often get a chance before February or March; but near the sea it is already gay with flowers. A night of sharp frost will destroy the expanded blooms, but there are plenty more in waiting for the next mild spell. The flower-bud of a rhododendron is well worth examining as a sample of scientific packing. The long leafy bracts are so beautifully arranged, each with an embryo flower in its embrace. and they lie so close, that both air and wet are effectively excluded by a strong, resinous cement, and the severest frost can make no impression upon the floral treasure within.

The arbutus, on the other hand, boldly hangs out its tassels of waxy white bells without any protection, quite regardless of the prevailing temperature. Moreover, it carries its showy fruit, toothsome-looking globes of orange-red, at the same time, which, together with its evergreen foliage of fine myrtle green, make up a combination which has no rival among British shrubs. Botanists are a serious race, nor can they be gifted as a class with a very quick sense of humour, else they

would show a nicer discrimination in their use of polysyllables; but Linnæus must have been in a waggish mood when he named the strawberry trees *Arbutus unedo*, that is, *unum edo*, I eat one—and no more, thank you! Many a child has proved the fitness of that appellation by the grimace which follows the experiment of tasting one of these berries of delicious appearance. Nature, it may be presumed, in her supreme solicitude for the perpetuation of every species, gives certain fruits an attractive exterior so that animals may be tempted to take them, and so distribute the enclosed seeds in likely places; but so long as her object is attained, she seems pretty indifferent to what benefit her ministers may derive from their function. The pulp of a gooseberry or a strawberry is sweet and palatable; the biped, feathered or unfeathered, who gathers such berries is made welcome to tickle his palate with the contents; but that is not Nature's prime purpose. She wants the seeds to be scattered far and wide, a result which, in the case of the arbutus, is attained almost as surely by tempting children to gather the pretty berries, which they are sure to throw away so soon as they have tasted one.

To a very different natural order belongs another shrub, invaluable at this season, one of the *Loganiaceæ* or Strychnine family. It has no English name, worse luck, and has to answer to that of *Desfontainea spinosa*. When out of flower most people take it for a holly, an illusion which is sharply dispelled when, in July and August, it clothes itself with brilliant scarlet and yellow tubular flowers. Like so many

Chilian plants, it simply revels in the moist climate of western Britain. It is evergreen, and has the delightful faculty of putting forth a second bloom in late autumn. There is a plant of this species within view of the window as I write which has endured the rigours of five-and-twenty Scottish winters, and carries at this moment over one hundred expanded blossoms.

One other shrub let me warmly commend to amateurs with sheltered gardens near the sea. It is a variety of the common *Hydrangea hortensia*,[1] known as *Mariesii*, and outlasts all other species or varieties in duration of bloom. It is loaded now, as it has been since August, with great corymbs of bright rose. Gardening books will tell you not to attempt to grow Hydrangeas out of doors north of the Thames valley. Pay no attention whatever to the warning if you live within influence of the sea. A milestone near here on the old coach road marks 397 miles to London, and this hydrangea is now as I describe.

Among plants of humbler growth the Kaffir lily (*Schizostylus coccinea*) sends up its vermilion spikes till the first hard frost lays it low. It is particularly fine this autumn (1908). A spring flower in its native South Africa, it has never accommodated itself, as most plants from the southern hemisphere do, to our northern seasons, and persists in flowering in exile

[1] I note that this name is now authoritatively written *hortensis*, as if signifying that it is 'the garden' hydrangea; but this is not the true meaning, for the plant was named after Hortense, Queen of Holland, memorable, among other merits, for having composed the song *Partant pour la Syrie*, which served awhile as the French national anthem.

simultaneously with its sisters on the veldt, so an early frost is fatal to its fine and free vermilion blooms.

Those whom business or pleasure may have taken to the Médoc during the claret vintage can scarcely have failed to notice a bright yellow, crocus-like flower that springs in September by sunny waysides and cottage fronts. This we choose to call the winter daffodil; goodness only knows why, for it is not a daffodil, and it does not flower in winter, but in harvest time. Its botanical name is *Sternbergia lutea*, and it is one of the many flowers which has been claimed as the Saviour's 'lilies of the field.' It grows wild along both shores of the Mediterranean as far east as Syria and Persia, and it flowers freely in hot corners of Surrey and Sussex gardens. But as this is the season when amateurs are studying bulb lists, it may be useful to observe that nobody need attempt to grow this pretty plant north of Trent, unless he would court disappointment. That, at least, is the conclusion to which I have been driven after five-and-twenty years' endeavour to coax forth its chalices of shining gold to gladden the autumn border. In our humid west the bulbs multiply apace, and sheaves of foliage encourage deceptive hopes year after year, but the plant requires more baking than they can get here. Has anybody succeeded with it in Scotland?

There are other desirable flowering things which we must forego—just counterpoise, I suppose, to our privilege in the matter of winter cold. The splendid trumpet flower (*Tecoma* or *Bignonia radicans*) defies twenty degrees of frost on a south wall, and has mounted

as many feet high, with abundant foliage, but in vain have I watched these dozen years past for a single truss of the rosy, orange bells that entitle this plant to a place in the first rank of decorative climbers. Why is it so seldom grown in south-country gardens? When I first met with it in flower on Sir George Darwin's pretty house at Cambridge, I lost no time in planting it three hundred miles further north, with the result aforesaid.

Another disappointing plant in the north is the Chinese *Xanthoceras,* for which no English name has been devised since its introduction some thirty years ago. I paid ten shillings apiece for three plants when it was a novelty thirty years ago; they have grown as vigorously as could be wished, but all the return they have made consists of plentiful feathery foliage like that of a refined mountain ash, and a few sparse heads of white flowers with a splash of claret at the base of each petal. Yet I have seen a photograph of this shrub in the south of England sheeted with blossom.

On the other hand, there are certain sun-loving plants which surprise one by the facility with which they adapt themselves to conditions of air and soil very different from those of the land of their birth. Last winter (1907-8) was the most trying that we have had since the terror of 1894-95, not so much on account of seasonable cold, but because of the unseasonable frost at Eastertide, when many species were far advanced in growth. Strange to say, the different kinds of cistus escaped practically unhurt, and have flowered abundantly throughout the summer. There is a great

variety of these beautiful shrubs to choose from, but a good deal of confusion in their nomenclature, and it requires some trouble to obtain the species true to name; but this matters less because there is not one of the genus that is not worth growing. Perhaps the best of the red-flowered kinds is *Cistus crispus*, which unfolds innumerable blossoms with crinkled crimson petals and golden centres in long succession throughout the summer months. The gum cistus (*C. ladaniferus*) is not easy to obtain true to name, but *C. cyprius*, which nurserymen usually supply as gum cistus, is equally beautiful, growing six feet high and producing crowds of large white blossoms, with a claret blotch at the base of each petal. The true gum cistus may be known by its flowers being solitary on the stalks, whereas the other carries them in thyrses of four to six. Nevertheless, *C. cyprius* is as fragrant and gummy as the other, and was probably an ingredient in the incense offered to Aphrodite at Paphos, though Pliny only mentions it as being *nobilis in vino*—delicious in wine—and an astringent drug. He describes the immemorial manner of collecting gum ladanum, by herding goats among the bushes and taking it off their hair, which must have added finely to the bouquet of the wine. Even so, it was probably less detestable than the *resinato* universally drunk in Greece at this day, wine flavoured with resin of Aleppo pines. In his *English Flower Garden*, Mr. W. Robinson mentions the white-flowered laurel-leaved cistus (*C. laurifolius*) as the only species hardy enough to grow in Scotland. He seldom misleads amateurs, but in this instance he

is at fault, for there are at least a dozen species which will luxuriate on a sunny bank in poor sandy soil on the west coast as far north as Ross-shire.

There is such a bewildering abundance and variety of flowering plants at command of amateurs that I am always grateful to anybody who calls attention to something specially desirable. Mr. Reginald Farrer has done so much yeoman service of this kind in his charming and instructive book, *My Rock Garden*, that little remains to be said about the class of plants whereof he treats; yet would I mention a speedwell upon the merit of which he is silent—*Veronica Allioni*, to wit. Wedged tightly between stones on the topmost level of a wall-garden, this delightful little alpine has spread out a cushion of leathery, deep-green shining leaves, whence it rears in late summer flower-spikes five inches high—deeply, darkly, beautifully blue.

In August and September the herbaceous border was lightened up by two yellow flowers worthy of note—one of a rich Indian yellow or chrome colour, *Coreopsis lanceolata*; the other, pure gamboge, *Anthemis tinctoria*. Both are most abundant flowerers, especially the last named, which endures for three months in beauty, but care should be taken to get the right strain, for there are some varieties with washy, and others with unpleasantly strong tints.

After all, there is no more exquisitely pure yellow, tending to lemon colour, than that of the North American evening primrose (*Œnothera biennis*); but being a plant which anybody can have for the asking,

comparatively few do so. It is usually considered biennial, as its botanical name implies, but on cool soils the robust variety called *Lamarckiana* becomes a true perennial, growing into a bush six feet high and as many in diameter—a splendid object when in full bloom. It ripens seed by the hatful; scatter this liberally in any open moist wood where rabbits do not come, and you ensure a yearly display for evermore.

LVIII

Autumnal Foliage

Nature seems to derive a sly pleasure in upsetting generalisations founded upon superficial observation. She certainly has succeeded this season (1907) in disproving what most of us had come to regard as a fixed rule, namely, that the brilliancy of autumnal tints were in some proportion to the heat of the foregoing summer. We have passed through a summer almost without precedent for cold and wet, yet here we are surrounded by such splendour in dying foliage as I have never seen surpassed in this country, and hardly ever equalled. Moreover, owing to the generally calm weather which has prevailed during the present fall, the display has been so much prolonged that it seems well worth while to take note of a few of the more effective species with a view to securing the best results in future seasons. It would lead us too far and too deep into vegetable histology to examine the causes in the structural and chemical changes in foliage which, in the first stages of decay, cause it to reflect red and yellow rays instead of green ones; more-

over, the modifications undergone by chlorophyl, the green colouring matter in plants, can only be described in polysyllables of portentous complexity; let us enjoy the phenomena of the fall, without inquiring too curiously into their cause.

The principal tints assumed by changing leaves are yellow, red, tawny, and russet. Among the yellows, there is none more pure than that of the Norway maple, the English elm, and the sweet chestnut. Of humbler stature, but equally brilliant in the fall, are the North American yellow-wood (*Cladrastis tinctoria*), a graceful, small, flowering tree too much neglected by British decorative planters, and the Japanese witch-hazel (*Hamamelis arborea*), which will be covered with its claret and yellow blossoms in January. At the ground level, the same bright colour is repeated by the great leaves of the plaintain lilies (*Funkia fortunei* and *Sieboldi*), which are invaluable for planting near carriage drives or by woodland walks. When these fine herbs are once established, rabbits leave them severely alone. I had nearly forgotten the Ramanas rose (*Rosa rugosa*), which lightens up the woodland in a charming manner when its graceful, pinnate foliage turns to gold. But to keep that foliage luxuriant, the knife should not be spared in early spring, shortening the vigorous growths by one-third of their length, and cutting out old wood and spindly growths altogether.

The horse-chestnut, that noble, but economically worthless native of Greece, which takes so kindly to our moisture-laden atmosphere, fluctuates between gold and scarlet, some individuals turning completely yellow,

others crimson and red, others again displaying a gorgeous blend of both tints.

Vitis coignetæ, finest of all the ornamental vines, is another plant that oscillates between red and yellow; so it should be tested before being planted in the position it is intended to adorn. Larches take high rank among the rich yellows, both the European and the Japanese species; so does the common birch, though this is one of the few trees that have missed fire this autumn, casting most of its leaves during the dry spell in September. The Tibetan birch (*Betula Bhojputra*) is already in the condition of

> 'Neptune and Venus,
> And swate Nicodemus,
> Standing mother naked in the open air.'

The *Lespedezas* attract notice at this season, long after their clusters of purple and rose pea-flowers have departed. It would be hard to beat *L. cyrtobothria*, a rather recent introduction, for grace of form and richness of colour.

For brilliant red, approaching vermilion, our native gean or wild cherry can give several shades to the scarlet oak (*Quercus coccinea*), and beat it easily. This neglected tree should be much more generally planted, for it grows rapidly, propagates itself freely by seed, and the timber is invaluable to cabinet-makers. Of the oak aforesaid, it may be said that when it is good, it is very, very good; when it is inferior, it is worthless. The best I ever had from an English nursery were supplied by old Antony Waterer, of Woking, now in the land o' the leal. One is very apt to be supplied with

so-called scarlet oaks which never attain a brighter tint than a gingerbread nut; so it is well to visit the nursery in autumn before purchasing.

Talking of nurseries, I was in my own one day lately, when my eye was caught by a most brilliant piece of colour, positively like a scarlet and yellow carpet laid over one of the beds. I could not conceive what it was. It turned out, on nearer inspection, to be a bed of young *Cercidiphyllum japonicum*, raised from seed sent me by a friend last spring. I know nothing by experience about this shrub or tree, save that it is of doubtful hardihood, but if it fulfils the promise of babyhood it has but one other rival in those hues, to wit, the poison ivy (*Rhus toxicodendron*), which flames out before its winter sleep with extraordinary effulgence. But this *Rhus* is a dangerous plant, being intensely poisonous, affecting very painfully the skin of him who handles it unadvisedly. It is often offered for sale under the name of *Ampelopsis japonica*, the purchaser believing it to be a Japanese cousin of the innocuous Virginian creeper, which it resembles in foliage and scandent habit. There are many harmless species of *Rhus*, notably *cotinus*, the Venetian sumach, with pinnate foliage, and *cotinoides*, with round leaves, which become almost as bright in autumn as the poison ivy; but these are not of scandent habit like *toxicodendron*.

The North American sorrel-tree (*Andromeda arborea*) displays very rich crimson tints at present, but it is outdone by another member of the Heath family, *Vaccinium corymbosum*, whereof the leaves have

turned an intense blood-red, such as I have never seen matched in autumnal colouring. Some of the common *Azalea pontica* and its hybrids run it very hard; indeed, there is no class of shrubs which enrich autumn gardens with so much profusion and variety as these deciduous rhododendrons. Yellow, orange, deep red, carmine, and puce—it is rare to find two azaleas exhibit identical dying tints. The Persian *Parrotia* is equally brilliant just now, perfectly hardy in mild districts, but said to require the protection of a wall in cold ones.

Passing to the orange and russet tints, British beeches and oaks need fear no rivals in that line. The Turkey oak changes more slowly, lingering long with a subdued tawny glow before turning into russet. The deciduous cypress (*Taxodium distichum*) takes on an orange brown hue, peculiar to itself. The famous ones at Syon must be a sight for gods and men at this moment.

Do not forget in furnishing your landscape to finish off with a liberal under-planting of *Monbretia* and its cousin, *Antholyza paniculata*. Their flowers, like sparks of fire, will not be all extinguished before the first hard frost, and their flag-like foliage forms most delightful undergrowth, taking on full tones of yellow and orange. In the moister places and by the waterside the umbrella plant (*Saxifraga peltata*), largest of its race, will charm you with the fine red and orange which its great leaves, as big as soup-plates, assume; but this grand herb does not stand as much overhead shade as the Monbretias do.

One other unexpected result from this wet summer is the abundant promise of bloom next season. Profuse

flowering is commonly thought to depend on well-ripened wood in the previous season, especially on trees and shrubs which flower on the old wood. Rhododendrons do so, yet they are crowded in a very unusual measure with next year's flower-buds, both the Himalayan species and their many hybrids.[1]

LIX

The conviction and fining of a fish-hawker in Ilfracombe for cutting off the tail-end of a conger eel before the creature was dead suggests sundry reflections on the uncertainty of our penal code. Apart from the difficulty of putting to a merciful death an animal so tenacious of life, it is not easy to determine the moment when death takes place and consciousness ceases, owing to the life-like contraction of the muscles after death, which continues in eels for some time, even after the head has been cut off. If the humble fish-hawker of Ilfracombe be held to have received no more than was due for his act, there are numbers of people in far better circumstances who get off with a good deal less. Chopping chunks off a living eel may be reprehensible enough, but it is not the cause of a tenth part of the suffering caused by the practice of docking horses, which prevails very generally, and with perfect impunity to the perpetrators. The present fashion, which decrees that hunters, hackneys, and polo-ponies shall have shorter tails than

The cruelty of docking Horses

[1] The display in 1908 was very fine (though early blossom was ruined by the terrible frost at Eastertide), but it was far excelled in 1909.

the Designer of vertebrate mammals thought suitable, entails an act of two-fold cruelty—present and prospective. Present—by the senseless and violent mutilation of an exceedingly sensitive and nervous animal; prospective—by the removal of the natural fly-flap. What thoughtful person has not been distressed by the spectacle of a horse or brood mare turned out to grass in summer, unable to protect its flanks from pestering swarms, and ceaselessly wandering up and down in vain endeavour to escape the torment? The pernicious practice of docking is a revival of eighteenth-century practice by the present generation. In the 'fifties and 'sixties it was considered the correct thing for hunters to carry not only the full length of the dock, but a lot of hair beyond it. Later, the dock itself was left its natural length, with the hair cut square at its extremity, forming what was termed a 'bang tail.' But now the smart thing is to amputate the greater part of the dock, which, of course, is but a continuation of the spinal vertebrae, and even to nick the sinew on the upper surface so as to form a 'cock-tail.' This is a reversion to barbarous practice, and in hunters and polo-ponies, is more or less injurious to their efficiency, inasmuch as the tail acts as a rudder, and is distinctly helpful in turning. The only practical advantage ever derived from docking was in the Peninsular War, when, as Wellington afterwards said, he was able to distinguish the British light cavalry from the French by their bob tails. The present army authorities, to their credit, will not sanction the purchase of remounts that have been docked.

If people wish to be fashionable, why not take the Royal stables for their model, where all docks are of the natural length? Reason and remonstrance, however, will never prevail against the edicts of fashion; the only hope of reform lies with agricultural societies, which, if they refused to award prizes to mutilated exhibits, would very effectively discourage the barbarous practice of docking. The showyard, indeed, has contributed a good deal to its prevalence, a short tail having the effect of making a horse's quarters look sweeter and more muscular.

LX

A Foreigner of Distinction

It would be difficult to imagine any occurrence less likely to happen in an English village than what took place at Langton in Sussex on Thursday evening, November 19 last, when a strange bird flew against a window of the vicarage, and was brought in a half-stunned state to Miss Turner, who, most luckily, is a good ornithologist. The stranger revived under her care, and made a hearty meal of bread and milk. Miss Turner then communicated by telephone with Mrs. Johnstone, from whose large aviary, about two miles distant, she supposed the bird had escaped. It turned out that she was right; the wanderer was one of a consignment of birds-of-paradise which Mr. Walter Goodfellow had brought from New Guinea at the end of last August to be placed in Mrs. Johnstone's aviary. Among them were

three pairs of the splendid rifle-bird (*Ptilorrhis intercedens*), of which species the female had never previously been brought alive to this country. In transferring them from the travelling cages to the aviary, a hen rifle-bird escaped, and although seen afterwards several times in a neighbouring wood (last on September 7) it defied recapture, and was written off as lost. It was, indeed, most unlikely, even if the bird could pick up a living after close confinement during the long voyage from one hemisphere to another, that it would escape the common fate of rare creatures in this country by the hand of some over-curious gunner; yet it has done so during a period of more than ten weeks, during which on one night the mercury registered seventeen degrees of frost, and there were besides several exceptionally heavy and cold rainfalls. Attractive possibilities are suggested of naturalising these gorgeous birds in our woodlands; but they are probably illusory, for it is not likely that birds-of-paradise could find a sufficient supply of berries and insects to sustain them through an ordinary English winter.

Mr. Brooke of Hoddam, who has a richly furnished and successful aviary at his beautiful place on the Annan (once the residence of acrid old Kirkpatrick Sharpe), tells me that these birds endure any reasonable degree of winter cold, but suffer miserably in the east winds of a British spring.

LXI

It must have been disagreeable to all naturalists who are true sportsmen, and to all sportsmen who love wild nature, to read a long paper recently in a leading sporting journal about shooting curlews. The writer described with exultation how he had destroyed between 200 and 300 of these quaint and interesting birds by lying in wait for them on their feeding grounds. Now one cannot blame shore-poppers, who live by the produce of the gun, for bagging any birds that they cannot dispose of in the market, at however low a figure; but to attempt to elevate the destruction of curlews to the rank of sport by publishing directions how it can best be accomplished, seems a regrettable action on the part of a journal which we look to for maintaining the chivalrous traditions of British sport. Surely there is plenty of legitimate game in the British Isles for everybody who claims to be a sportsman as distinguished from a pothunter. It is otherwise in France and some other countries where *gibier* is an elastic term, including song birds and every bird that can be converted into *petit rôt* or *ragout*. But in no sense consistently with the traditions of British sport can curlews be reckoned among game birds. They are edible, it is true, but nobody who has eaten of one hankers much after a second helping. It is simply deplorable if young shooters—shooters for sport, I mean, not for a bare living—are to be encouraged to regard all wild birds as fair targets. The curlew ought to be held as sacred among us as his

Spare the Curlew

relative, the ibis, was among the ancient Egyptians His wild whistle adds a characteristic charm to moorland and coast scenery; his grotesque shape and nocturnal flight carry us back in imagination to the wastes and swamps of the Tertiary Age; and among all living creatures there is none of more blameless habits, living as he does exclusively upon worms, molluscs, and creeping things.

Curlews and their congeners are such familiar objects, their habits are so easily watched, and there are such a host of observers in these days, that it might seem unlikely that any new fact about them would be likely to turn up. Nevertheless Mr. Francis Heatherley, in a description of the ternery at Wells in Norfolk communicated to the October number of the *Zoologist*, upsets a statement about the young of these birds which has gone unchallenged for generations.

'In the case of many birds (he says), *e.g.* curlew, peewit, and golden plover, the books say that the young leave the nest as soon as hatched; while I have found that they remain in the nest upwards of sixty hours after hatching. But as regards the ringed plover it seems literally true, the chicks wandering off within half an hour of being hatched to feed on the sandy shore under the paternal eye, leaving their mother to hatch out the remaining eggs.'

Talking of young curlews, does any one wish to see a consummate example of the lost art of wood-engraving? Let him turn up Yarrell's *British Birds*, vol. ii. p. 615 (third edition, 1856), and refresh his eye with the portrait of a young curlew there. It is almost incredible that such delicacy of line combined with such

depth of tint could be attained by carving a block of boxwood. Deadened and jaded as the sense of true chiaroscuro must be in all of us by plethora of cheap 'process' illustration, it is indeed a pleasure to contemplate such a combination of breadth and faithful detail as is presented in this woodcut.

December

LXII

The perpetuation of Species

Nobody can devote much attention to the processes of Nature without being impressed by the solicitude shown by her general manager for the perpetuation of species by reproduction, the bewildering variety of devices provided to that end, and the absolute indifference manifested in regard to their effect, whether injurious or beneficial, upon individuals. Predacity and parasitism are dominant features in the general scheme, comprehending both the animal and vegetable kingdoms; but it is not upon these agencies as mere means of sustenance that the following reflections are based, only upon their effect in securing a succession of generations. Some of the expedients are of exceeding cruelty, according to human ideas, as in the case of the numerous species of ichneumon flies, which deposit eggs in the bodies of other creatures, to be hatched into maggots which devour the living tissues of their defenceless hosts. Others attain the end in view by gentler methods, securing mutual advantages to both parties in the transaction. Thus many flowering plants ensure the fecundating visits of flying insects by offering them a cup

of nectar, which is often advertised by seductive odours and attractive colours. This seems an ideal arrangement; the flower gets its business transacted at a reasonable cost; the insect flies off well satisfied by payment in kind for its services.

Other plants there are which stoop to gross deception in order to gain the same end. I have drawn attention elsewhere[1] to the behaviour of that strange vegetable the hairy arum (*Arum crinitum*), which I suspect not only of devouring insects for its own nutriment, but of employing their larvæ to fertilise its own florets. I have not ascertained that this is so, though I hope to work the question to a conclusion next summer, and it is one in which the co-operation of other observers would be most welcome.

The hairy arum is a native of the Mediterranean region. Tubers can be had at a moderate price from any bulb merchant at the present time; and if planted in lightish soil in a sheltered spot fully exposed to the sun, will flower during next summer, though it will be apt to succumb in the succeeding winter in mild districts. Its blossom, when it does appear, is simply appalling in aspect—the most hideous inflorescence known to me. Like that of other aroids, it consists of a sheath or 'spathe,' within which is the 'spadix,' or flower spike; but these, instead of growing erect, as in the lords-and-ladies of our hedgerows (*Arum maculatum*), hang pendulous; the spathe, eight to ten inches long, droops and gapes like a huge wound, lurid purplish in colour, with scattered coarse black hairs. Protruding from the

[1] See p. 155 *supra*.

spathe lolls the black spadix, with small degenerate flowers clustered round it, the female flowers being at the base, the male flowers above them, all of an evil purplish tint, suggestive of carrion. Lest winged insects should disregard the suggestion, the flowers in opening emit a stench like putrid meat, accompanied by a considerable rise of temperature, as if to strengthen the impression of a gaping wound. The artifice is completely successful; blowflies and others crowd in; numbers of them die, and the throat of the spathe is soon choked with their corpses, but others succeed in depositing their eggs, so that in two or three days the mass is full of maggots, feeding on their dead uncles and aunts, and wriggling among the florets on the spadix. Now the point which requires elucidation is this—are the flies enticed into this chamber of horrors and killed there either by a poisonous exhalation or by some poisonous secretion they devour, solely in order that the plant may derive nutriment from their bodies? or do the movements of the maggots contribute to the fertilisation of the florets? Observation and suggestion are invited.

A good illustration of the sacrifice of a noble and useful species to the requirements of an ignoble and useless one may be in the life history of the felted beech coccus (*Cryptococcus fagi*), a diminutive plant-louse, already referred to as committing great havoc among British beech woods.[1] What good purpose can be served by the perpetuation of such a creature does not appear, nor would the world suffer any conceivable

[1] See p. 102 *supra*.

detriment should the last beech coccus expire childless. Nature has elaborated effective precaution against a consummation so greatly to be desired. The coccus itself is a shapeless sac about one twenty-fifth of an inch long, armed with a sharp beak which it thrusts into the bark of a beech and sucks the sap. Probably it has existed unnoticed for ages, until a few years ago some undetermined conditions favourable to its requirements caused it to multiply by millions of millions, so as to cause the death of many fine beeches in several counties and to threaten destruction of others. Aphids and other plant-lice can be suppressed or kept in check by insecticide sprays; but in making provision for this precious coccus, Nature seems to have foreseen and prepared against that danger, for she has given each of these little yellow scourges the power of secreting white, waxy fibres, which unite into a kind of felt, making a covering quite impervious to poisonous washes.

LXIII

The Deal-Fish

Closely akin to the King of the Herrings or oar-fish is the deal-fish or 'vaagmaer' (*Trachypterus arcticus*), one of the rarest inhabitants of abysmal ocean to come under human observation. Mr. William Evans, who recovered the oar-fish mentioned above at p. 123, has been lucky enough to secure (28th November 1908) a deal-fish near the same place as the other was stranded, the first recorded occurrence of this interesting species in the Firth of Forth. There are difficulties, almost, if not

quite, insuperable in the way of obtaining a perfect specimen of the deal-fish, and it is doubtful whether an unmutilated adult has ever come into human hands. For despite its considerable size, the deal-fish is fitted only for existence in the still, abysmal depths of the northern ocean. It is so loosely put together as to be quite unfit for conflict with the waves and strong currents of the upper waters, and generally falls to pieces when an attempt is made to raise it in a dead or dying condition from the surface. Once let a deal-fish be forced by some untoward agency from its native profundity and its fate is sealed. It never can return to the deep sea, for high pressure is essential to its active existence, and when that pressure is removed by the fish being forced into comparatively shallow water, it drifts helplessly on the surface, without the power of descending, until finally it is washed ashore and supplies matter for a paragraph in the local journals.

Of the life history of the deal-fish practically nothing is known, save that its home is in the deep sea between Iceland and Norway. It is even uncertain what is its normal aspect before the rude waters of the surface have broken away many of its fin-rays, which, in the closely kindred Mediterranean species (*T. Iris*) grow to an extraordinary length, measuring in young specimens four or five times the length of the body. But one of the most distinctive features in this fish usually remains—namely, the caudal fin, or tail, as it is popularly called, which is not set continuously to the spine as in other fishes, but juts up abruptly nearly at right angles to the spine, having the appearance of a fan.

That the deal-fish is as predaceous as most marine fishes is shown by a pretty serviceable set of sharp, recurved teeth, and that it puts these to practical use appears from the abundance of fat in the body, which fat, say the Norwegian fishermen, drains away in oil soon after death.

Dimly lighted as the abode of this animal must be, in respect of decorative colouring the deal-fish is not inferior to others. Its sides have the silvery lustre of a spring salmon, and each side is marked with three black discs as large as the creature's eye. In brilliant contrast to the shining body, the high dorsal fin, which extends the whole length of the back, is blood-red, which colour pervades all the other fins also. Man sometimes assumes, arrogantly enough, though not so generally now as formerly, that Nature designed the beauty of creatures chiefly for his special delectation; but here is a brilliant animal moving habitually so remote from the light that, were it possible for a human being to penetrate to those depths, he could but be conscious of total darkness.

LXIV

Belated Swallows

Mr. Harry Beeston has published a mournful diary in the *Zoologist*, kept during the winter of 1906-7 to record the fate of a swallow and two sand-martins which missed the train in the autumn migration, and attempted to spend the dark months in Hampshire. Cold weather set in about Christmas, the weather being very wintry, with several inches of

snow on the ground from 26th to 29th December. The swallow did not survive this cold spell, dying, probably, not from cold, but from starvation. The martins, however, made a gallant fight. On January 13 only one of them was to be seen skimming close to the water after such insects as were about, and so every day until the 23rd, when the entry in the diary was as follows:—

'Cutting wind from N.E. Eleven degrees of frost last night. Martin still courageously and persistently hawking for food close to the surface of the water. It appears to-day very feeble, and is only just able to flutter along, and does not attempt to leave the stream as yesterday.'

The bird was never seen again. It is a sad little story, and illustrates the perils besetting all migratory birds. Steaming one cold April day in a yacht across the Adriatic from the Gulf of Taranto to Corfu, we saw hundreds of birds—wheatears, hoopoes, warblers, etc.—all flying north. There was a rough, lopping sea, and many of the little wayfarers seemed scarcely able to clear the tops of the waves. We were running not more than nine knots, yet we overtook as many birds as were able to overtake us. Their average speed, therefore, may be reckoned at about nine knots an hour, and as it is upwards of 400 geographical miles from Jeb-el-Akbhar, the nearest point on the African coast, to the coast of Greece, near Cephalonia, they must have remained forty-eight hours on the wing without food or water. Several birds alighted on our decks, and immediately went to sleep, evidently in the last stage of exhaustion. But they must have been hungry too, and not the least part of the mystery of

migration is how multitudes of birds, whether grain-eating or insect-eating, arriving in rapidly successional flocks on rock-bound coasts like those of Greece or Albania, can find nourishment to fit them for the rest of a journey whereof the end may still be many thousands of miles distant.

LXV

Bird notes from East Anglia

For some years past Mr. J. H. Gurney has contributed annually to the *Zoologist* a report on the ornithology of Norfolk, which never fails to contain much interesting matter. His report for the year 1906 appeared in the April number of that journal, and records the occurrence of an unusual number of fatalities to wild birds. I do not refer to the ordinary, senseless, apparently incorrigible practice of shooting at every strange or beautiful bird that ventures to alight on our inhospitable shores; that continues as of yore, though there are welcome signs that an increasing number of consciences are being pricked by protests in the press and elsewhere. Mr. Gurney's paper contains evidence of the necessity for reiterating such protests until it is generally counted a shameful thing to destroy feathered strangers, the more so because many of these are not truly wild, but stragglers from aviaries or colonies of acclimatisation. The incorrigible propensity of birds, especially water-fowl, to wander from the security of such places is a perpetual source of disappointment to those who care only to rear birds with their power of flight unimpaired, and

who regard the practice of pinioning birds as of a piece with that resorted to by men of certain Asiatic tribes, who slit the noses of their brides in order to ensure conjugal fidelity. I think I have already recorded the gradual disappearance of my fleet of Carolina summer-ducks, which, though generously fed in the sanctuary lake, persisted in nocturnal expeditions to the seacoast, and helped to fill the bags of flight-shooters. A friend on the east coast, whose better success in keeping his flock of summer-ducks together has stirred my envy these many years past, lost the whole of them in the winter of 1906-7. Probably the passage of a large flight of indigenous wild-fowl proved too powerful an attraction to the foreigners, and they have all gone, never, I fear, to return.

So the flamingoes, reported by Mr. Gurney as having been shot on August 23 on Morston Sands, and in November somewhere in Holland, doubtless were deserters from the Duke of Bedford's wonderful collection at Woburn or Lady Dunleath's park in Ireland.

The birds, whose obituary is recorded in Mr. Gurney's sorrowful note, are in a different category. There is no reason to suppose that they were other than truly wild birds on passage.

'*Sept.* 3.—A little flock of glossy ibises seen on Breydon Broad. . . . They were soon disposed of, for I presume they are the same which were shot in three different places in Ireland and one in Sussex shortly afterwards. Another was killed in Devonshire.'

Though never likely to choose these blood-boultered

islands as a nesting-place, the glossy ibis recurs pretty frequently as a bird of passage, and it is truly exasperating to know that it is only the infernal diligence of gunners and collectors that prevents us being more familiar with the aspect of this beautiful creature, like a glorified curlew, clad in russet and bronze, with reflected gleams of purple and green.

'*Sept.* 4. — Immediately following the party of ibises, and impelled no doubt by the same cause (a wave of intense autumnal heat), came a misguided flock of thirteen red-crested pochards (whistling ducks) which settled on Breydon Mere, never to return. Eight were taken by Mr. So-and-So, etc., etc.

'*August* 8.—Purple heron (immature) shot at Barton . . . 15th August. Spoonbill on Breydon, seen again on 17th, 18th, and 20th. This or another was subsequently shot at Aldeburgh in Suffolk, where I learn of five being seen.'

Spoonbills used to breed regularly in England, and doubtless would do so again if they were allowed a chance; but the persecution will only cease when our countrymen have been persuaded or constrained to regard rare birds as visitors to be encouraged, instead of done to violent death.

The other kind of casualty chronicled by Mr. Gurney is of the kind which lawyers call an 'act of God,' and being incidental to life on the wing, may well raise some qualms, even in the minds of those who are most eagerly anticipating the development of aerial locomotion.

On February 8 came a violent storm of snow and hail, with twenty minutes of incessant lightning. The

wild geese in Holkam marshes, estimated to number about four thousand, became greatly agitated, flying to and fro in the tumult. The result proved that they were geese indeed not to lie low, for no fewer than nineteen of them—fifteen pink-footed and four white-fronted—were found next day scattered through the neighbouring parishes, having been struck by lightning. A black-backed gull, killed in the same manner, was picked up at Lowestoft.

On April 20 a woodcock, whose power of flight had failed it during migration, was picked up on the beach. On May 7 an ortolan bunting was found entangled in some garden netting; on August 2 a great crested grebe was drowned in a tunnel net, and another was caught at Sidestrand, 'very thin, the stomach packed with its own feathers, which were apparently the only thing it had to eat for some time.' Then came the severe frost at Christmastide, with heavy snow, to lock up the larder of many birds. On December 28, fieldfares, blackbirds, thrushes, skylarks, rooks, titlarks, linnets, twites, and goldfinches streamed along the beach between the snow and low-water mark.

'So close were the flocks that no sooner had one passed than another was in sight. Hour after hour, some of them almost within arm's length, they struggled on silent and weak for want of food . . . Kingfishers moped on stakes, or died of starvation . . . This Siberian weather had a disastrous effect upon the great-crested grebes. . . . One bird-stuffer in Yarmouth had no fewer than eighteen brought to him.'

Mr. Gurney does his utmost to encourage the pre-

sence of barn-owls, and adds some valuable testimony to the usefulness of their operations. In May he analysed, by soaking in water, half a pailful of pelts or castings of these birds, and found among them the remains of eighteen finches (apparently sparrows), two young thrushes, eleven young rats, twelve field-mice, and four shrews. 'No remains of game,' he remarks. 'It always makes my blood boil to see this useful bird proscribed by the unthinking gamekeeper.' In the nest of a long-eared owl were found the remains of seven young rats, 'which in a few weeks would have been full grown and ready to prey on the young, hand-reared pheasants, of which these woods are full.'

The value of such notes as these, made by an ornithologist of Mr. Gurney's experience and standing, cannot be overestimated. It is too commonly supposed and asserted that it is of no scientific use reporting the occurrence of a rare bird unless its corpse can be produced for examination by experts; but here is Mr. Gurney, whose scientific reputation nobody can call in question, writing with approval of three among his correspondents, Mr. E. C. Arnold, Mr. Power, and Mr. Napier, 'who seldom use the gun where binoculars will serve for identification.'

LXVI

Yesterday (26th December 1908) I found in a friend's house the stuffed effigy of a handsome and uncommon winter visitor to these islands— to wit, a great grey shrike (*Lanius excubitor*). It was

The Great Grey Shrike

undergoing the process of dishevelment and distortion which is the almost invariable doom of locally preserved specimens, and the fine contrast of silver grey, sable, and snowy white which its plumage once displayed was obscured by a thick deposit of dust. The bird had paid the usual penalty enacted in this country upon creatures of conspicuous plumage. It had the misfortune to take up temporary quarters in the garden of a gamekeeper, where it remained some days before it occurred to him that he might as well shoot it. The pity of it! for what a rare opportunity was lost of observing the peculiar habits of the bird. Its practice of impaling beetles, mice, small birds and anything edible upon thorns is too well known to require description, but a record of the contents of its larder should have been kept. How many of us would have derived intense pleasure from the sojourn in our premises of such a distinguished stranger. It is vexatious that it chose for its host one who could derive no enjoyment from glancing wings and delicate colouring, but could be satisfied with nothing but blood.

The great grey shrike has not been recorded as breeding in Great Britain, which is difficult to account for, as it nests regularly in Holland, where spring diet is not more abundant than with us.

Since writing this note I find that another grey shrike has been sacrificed in Galloway during the present winter, in precisely similar circumstances to the other. It was killed in a garden where it had made itself at home for weeks.

A correspondent in the Orange River Colony sends

me an interesting note about the way the shrikes in new lands avail themselves of the resources of civilisation. He does not mention what species of butcher-bird is common in this colony, but there can be no scarcity of thorns whereon they may impale their prey after the hereditary manner of their kind, seeing how greatly that land abounds in spiney growths. But butcher-birds are not unreasonably conservative. Being intelligent creatures, they have shown their readiness to move with the times, and evidently regard the hundreds of leagues of barbed wire which have overspread the colony as a device specially contrived for their convenience. Instead, therefore, of troubling themselves to hunt out a suitable tree, they choose the top strand of a barb-wire fence for a larder, and you may see a variety of delicacies impaled in a long row upon the points—frogs, lizards, beetles, small snakes, young birds, mice, and suchlike.

LXVII

The Larch

I have prosed before now in these notes on the subject of the two larches at the west end of Dunkeld Cathedral, noble monuments to the silvicultural ardour of the second Duke of Atholl. It is with sorrow that I here have to record that one of the pair—reputed as the first larches rooted in Scotland—has been killed by lightning (1907), having attained the age of one hundred and seventy years or thereby. It is well known that the said Duke was so well pleased with the growth made by these new trees that before

his death in 1764 he had planted some twenty square miles with larch. A story comes to me from a correspondent, prettily illustrating the Duke's intense interest in the restoration of forest, and not the less worthy of repeating because, my correspondent being a Cameron himself, it indicates some degree of haziness in his clansman's conception of *meum* and *tuum*. If distance cannot lend enchantment to theft, surely petty larceny may borrow some glamour from antiquity.

Mr. Cameron, one of many of his race who live strenuous and useful lives in wealthier England, undertook a few years ago a pious pilgrimage to the sepulchres of his forbears in lonely Glen Nevis. As he trudged up the glen from Fort William, his attention was drawn to a group of eight huge larches growing on the bank of the Nevis, and he remarked to his companion that they reminded him of the parent larches of Dunkeld. Their beauty and the grandeur of their branches impressed him so much, that he spoke of them afterwards in the presence of Canon M'Coll and Mr. ——, a tradesman of Fort William.

'Maybe you will not be knowing how these trees came in the glen?' said Mr. ——

'I do not,' replied Mr. Cameron, 'but I would like to, fine.'

'Well and indeed,' said the other, 'it was a very long time ago. It came about that Cameron of Glen Nevis was landing from a ship, and in the boat with him was the Duke of Atholl himself, and with the Duke was a parcel of small trees, which lay behind Glen Nevis in the boat. Now Glen Nevis was the

great man for planting trees at that time. It was he that planted the avenue of beeches you may be seeing at Glen Nevis House, and many other trees he planted. So when he sees the parcel of trees he makes bold to ask the Duke what were they. "Oh!" says the Duke, "they are a very beautiful tree that I have seen in my travels, and I am away to plant them at Dunkeld." After that Glen Nevis keeps the Duke in pleasant talk indeed, but all the while he keeps his hand busy in the parcel of trees lying behind the Duke's back. He would get, maybe, a dozen or so of them, and these are the great larches of Glen Nevis at this day.'

The European larch, unrivalled for the early maturity and excellency of its deal, has become sorely discredited with foresters of late owing to the ravages of a minute fungus upon which cryptogamists have bestowed a title more in proportion to the extent of the mischief it works than to its dimensions, calling it *Dasyscypha calycina*. This pestilent little organism, whereof the purpose in nature is impossible to discern, fixes itself on some wound or abrasure of the bark, and drives its mycelium into the wood of the tree itself. Almost microscopic in size, its external display consisting of a white cup not much bigger than a grain of mustard-seed, it multiplies rapidly, and the first indications to the forester of its presence is a morbid swelling in the trunk, enclosing a deep-seated canker, whence oozes black and unhealthy resin. No remedy has been found for the mischief. Some vigorous young trees seem to overcome the attack, and grow

healthy wood round the canker, but a vast number succumb, and when a larch wood is badly affected the best thing to do is to fell all the diseased trees and underplant with some shade-bearing trees like beech, silver fir, or the giant cypress.

The last-named tree (*Thuya gigantea* or *plicata*, according to the latest Kew nomenclature) is coming to the front as one of the most valuable exotics for planting in Britain, as Mr. Peter Lawson told me forty years ago it would. It is very easily propagated. Six years ago I raised 50,000 or 60,000 from 15s. worth of seed which are now six feet high. In British Columbia the timber of this beautiful tree is reckoned next in value to that of the Douglas fir, and its durability is extraordinary. In Messrs Elwes and Henry's sumptuous work on *British and Irish Trees*, there is a plate representing a hemlock spruce 120 years old, rooted astride of a trunk of the giant cypress, the wood of which is as sound as on the day it fell.

The persistence of the European larch in British woodland seems gravely menaced, if not doomed; for, as if the canker fungus were not enough, a new and formidable foe has travelled hither from North America, to which too prolific neighbour Europe owes, besides a lot of bad weather, the *Phylloxera*, the potato beetle and the gooseberry mildew. The newcomer is the large larch sawfly (*Nematus Erichsoni*), a pretty little hymenopterous insect not half an inch long. What it lacks in stature it makes up for in diligence of procreation, defying all human effort to keep it in check. The parent fly, provided with a sawing blade

of extraordinary delicacy in her ovipositor, slits the bark of young shoots and deposits a vast number of eggs, whence issue a horde of little caterpillars, grey-green with round black heads. These are at their busiest in July, stripping the larches of every green leaf, and falling to the ground in autumn, where they form cocoons and emerge in spring as perfect flies.

This pest first appeared or was first noticed in England in 1904, when the Dodd wood, on Miss Spedding's Mirehouse estate, consisting of larches from twenty to seventy years old, was found to be thickly infested with sawflies. These increased and spread during the two following summers until fully 300 acres of woodland in this district have been ravaged, and many trees fatally injured; besides which, 200 acres on the other side of the Derwent valley have now been attacked. It is reported that this has put a stop to planting European larch in the Lake district. It remains to be seen whether the Japanese larch (*L. leptolepis*) is liable to this scourge. It is to be hoped that Mr. Stewart MacDougall who has made a special study of the larch sawfly, will ascertain by experiment next summer whether this tree will nourish the insect. It is well to be warned in time, for the splendid vigour of the Japanese larch has kept it hitherto immune, or nearly so, from the canker fungus, and many foresters are planting no other species.

LXVIII

An Eighteenth Century Laird

A few years ago the late Mr. Henry Graham presented us with an interesting picture of social life in Scotland during the eighteenth century. The book was well received, as it deserved to be on account of the undoubted fidelity of many details, and has been extensively quoted from since. Nevertheless, it appears to some of us that he sets his palette with unduly sombre pigments; that he dwelt overmuch upon the exceeding poverty and parsimony of the gentry during the quarter of a century following the Union, and, so dwelling, missed some sources of comfort and pleasure which lightened the lives of our forbears. It cannot be denied that, in the reign of Queen Anne, the households of Scottish country gentlemen were run on far more frugal lines than those of their English contemporaries. Rude enough and comfortless we might esteem them were we suddenly transported back to the early eighteenth century; but, after all, everything is relative. The main difficulty with country gentlemen is to make ends meet; those who succeeded in doing so a hundred years ago probably got quite as much enjoyment out of life, and were sensible of as little discomfort, as their descendants in this age of motor cars and marconigrams. It is in no spirit of fault-finding or contradiction that I venture to submit some direct evidence to prove that country life was by no means uniformly dismal for men of moderate estate. My witnesses shall be certain vellum-covered

folios, once ivory-white, now tawny and tarnished with the vicissitudes of two centuries. They form a set of household and estate books wherein my great-great-great-grandfather kept his accounts in a delightfully conversational way, yielding a good deal of insight into the daily life of a Scottish laird.

Sir Alexander Maxwell succeeded his father in 1710 in the estate of Monreith, which was then almost identical in area with what it is now. Galloway certainly was not a rich agricultural district in those days, being mainly pastoral, and pretty rough at that: it may be assumed that Sir Alexander's 17,000 and odd acres did not yield the income that might have been derived from similar extent in the Lothians or Tweeddale.

'The gentry were miserably poor,' says Mr. Graham, speaking of the early part of the century; 'the nobles and lairds were constantly at their wits' end to get means to pay their way, and were obliged to live sparingly. . . . Gold was never seen; silver was exceedingly scarce, especially after all the Scots coinage had been called in subsequently to the Union.'

Sir Alexander, however, succeeding three years after the Union, found a good deal more cash than a Scottish gentleman of to-day would care to keep lying beside him.

	Sterling.
'In harn bag marked with much wax 40 queen an's guineas	£43 0 0
Sealed in large harn bag 413 guin: 9 shi: 4d ster. (8000 merks Scots)	444 8 10

Sealed in large harn bag	£64	0	0
Sealed of silver in little harn bag . . .	13	0	0
Sealed in little harn bag	50	0	0'

In all, £614, 8s. 10d. in hard cash.

That gave the new laird a good start, and he managed to keep it. Not by sitting tranquilly at home, content to draw his rents; for these brought in little cash, being chiefly paid in kind—sheep, capons, grain, etc., —for which it required good business habits and connection to find a market.

The Scottish cattle trade with England was an important source of revenue to Galloway landowners, and the annual despatch of the autumn drove marked an event even more important than the corn harvest. The lairds bought in summer stock from the peasantry who bred 'nolt,' fed them on the home pastures, and at the end of August in each year sent them off to the English markets. Large proprietors kept their droves separate; smaller ones combined their cattle, so as to make up a considerable drove. Most animated and picturesque must have been the scenes on the road, involving, no doubt, a prodigious amount of strong language, strong drink, and competition for grazing by the way; the last-named consideration affording a welcome opening for profits to owners of pasture along the route.

Sir Alexander's first speculation in this line was unlucky. On 28th August 1711 Mr. Patrick Maxwell received 50 guineas 'to carry my drove to England'; on 11th November he brought back £2372, 10s. 7½d. sterling, and received a present of £3 'for his pains

and trouble with the mercatt.' Another drove which was sent at the same time to Hampton under Anthony M'Caa, William Dun (of whom more hereafter), and Thomas Little, produced £646, 6s. 3d. sterling. After reckoning what he had paid in laying in the stock, the cost of their summer keep, and the expenses of the drove, Sir Alexander comes to the melancholy conclusion that his loss on the year's trading amounted to £5415, 18s. 8d. Scots, 'which makes 8124 merks Scots.' Taking the value of the depreciated Scots currency as about 1 to 12 of English sterling money, this represents a deficit of £450 sterling; but the sale of cows during the same year showed a profit of £1048 Scots or £87 sterling. In making out his balance-sheet, the laird charged himself not only with interest on borrowed money, but with £500 sterling, the estimated annual value of the grazing occupied by the herd; so that the net result of this year's trading was that he drew £157 from his grass parks instead of the estimated rental of £500. Anyhow, at the end of that year there was the snug sum of 600 guineas 'in the large harn bag' and 124 guineas 'in the little harn bag.' Other years showed a profit—£140 sterling in 1715, £177 in 1720, and so on, with occasional losses. The year 1728 was especially unlucky, as Sir Alexander explains in the voluble way which makes his account and stock books such entertaining reading. The drove that season consisted of 746 oxen and 'stots,' which are entered as costing £2677, 15s. 9⅔d. [*sic.*],—

'which by William Dun's bill of sale amounts to £2711, 4s. 6d., whereof to reduce of charges he gives in ane account

£250, 9s. 11d.; which is a most extravagant account, there being 18 of them died by the way going to the Mercat of the murrain, which was a Ly invented by him for they were killed by overdriving, and all the fat heavy nolt died being driven till ten at night & got neither water nor grasse, he constantlie Drunk and never came near them & undercharged the prices he got. Soe there remains onlie to bear charges 702, which makes them above 7 shil: 3 halfpence per beast, which must be grosse mismanadgment or dishonestie, which is the same as to my losse. Losse on drove £172, 2s. 2d. sterling which is £2065, 6 Scots or 3098 merks; this besides the death of my cows & other breeding stock, & death of my bull, in all £30, & the death of my bay pad worth £30, being alsoe robbed of my cash, the losse of which I cannot yet know till the accompts of my cash book be made. Soe this year 1728 has been a remarkable year to me for misfortunes & Calamities that are unusuall.'

As every other landowner in Galloway, great and small, seems to have been engaged in the cattle trade, the amount of money flowing annually from England into that remote part of Scotland must have been very large. The money transactions between the lairds—borrowing and lending—were incessant; the records thereof preserved in these books are of bewildering intricacy. At first the balance showed against Sir Alexander, who owed in 1712 £2049 sterling against £1306 owing to him; but in 1730, the last year of his life, he was able to write complacently, 'Bona excedunt debita per £491, 10s. 6d. sterling.' For although, as I shall show, he spent liberally, he was careful in small disbursements,—how careful, let entries like the following testify:—

'*N.B.*—Not to take any More herrings from Mr Lawrie who made me pay 2 shill. a penny for 1200. John Semple offered his for 22 pence.'

The labour of keeping accounts so minutely as did Sir Alexander was complicated by notation in different currencies. Although sterling money was established by the Union in 1707, when the Scots currency was called in, local transactions, such as rents, teinds, and tradesmen's bills, continued to be reckoned in Scots money long after that date, and that again was often rendered into merks.

Now let us turn to the cash-book, and gather what light it throws upon the daily life of a Scottish laird of moderate estate. Sir Alexander's expenses during the first year after his succession suggest no shortness of ready money. Thus having occasion to consult Sir John Fergusson of Kilkerran, an advocate of high repute, upon his being served heir, he met him at House o' the Hill, a lonely tavern, still the resort of anglers and shepherds, on the march of Ayrshire, and paid him a fee of £51, 12s. Scots—say four guineas sterling—and tipped John Binny, his servant, half a guinea and a crown = £9, 9s. Scots.

So much for the laird's life as a bachelor. On 29th December 1711 Sir Alexander married Lady Jean Montgomerie, youngest daughter of the ninth Earl of Eglinton, and for the following fifteen years this lady's name occurs constantly in the accounts, often with terms of great affection. That she was beautiful her portrait remains to testify. It cost the bridegroom £6, 12s. 0d. sterling—moderate enough for a charming

kit-cat of one with soft brown eyes, a white skin, and abundant curling dark hair. Artist unknown, but not the same hand that portrayed Sir Alexander in a conventional steel-jacket—one Mr. Aikman, whose fee was £5, 7s. 6d. 'Within doors,' says Mr. Graham, 'the furniture was rude, . . . the beds were closed like a box in the wall, or in recesses with sliding doors, which imprisoned and stifled the sleeper' [vol. i. p. 7]. But Sir Alexander made better provision for his bride. On 5th November 1711 appears the entry:—

	Scots.
'To L^y. J. M. to buy a bed in Ireland 17 guineas and ½ for a down bed. . . .	£225 15 0'

This bed, a carved mahogany four-poster, is still in use. Sir Alexander's dining-room table, round, of dark mahogany, is that on which I am writing, and I hear an eight-day clock also, which he bought about this time, ticking out the seconds as faithfully as it did nearly two hundred years ago.

Other references to this marriage and its consequences lend some agreeable local colour. There were some changes in the bachelor establishment that year, as was natural. The laird paid £149, 2s. Scots for 'a gray pad for my wife's use'; and later, 21 guineas sterling to a midwife. He wanted a valet, so William Dun (the same who sixteen years later got into such disgrace over the English drove, and was discharged) received £9, 12s. Scots (16s. sterling) to carry him to Edinburgh, there 'to learn to sheave and dress.' And so ran out the first year of married life: one of tranquil happiness and tender anxiety. Lady Jean's eldest

sister, the Countess of Galloway, lived at Glasserton, only seven miles across the grazing land along the sea, so she did not want for company, though she had to give up riding the 'gray pad' for a while. And Sir Alexander, grateful to his sister-in-law for helping his wife through her trouble, made her a pretty present at the New Year.

'To the Countess of Galloway, to pay for 10 yards of damask, as the outer half of her nightgown . . . . . £2 13 6'

Sir Alexander has given in his own handwriting a detailed account of 'servants and their wadges as they stand at Mertinmasse 1729,' which, with the quaint note at the end of the list, it may be of interest to give at length.

	Sterling.
'Imp. Mr. Alexander Morison who is my son's governour	£30 0 0
Mr. Archibald Campbell, chaplain, has yearlie	10 0 0
Robert Turnbull my own servant . . .	10 0 0
Adam Christie, butler	5 10 0
Alexander Steven, cook	6 0 0
His mens wadges which I pay are . . .	3 0 0
Besides to Hugh M'Love a pair of shoes over his wadges	0 3 0
Gavin Robinson groom, has of wadges £3 and to buy shoes and stock	3 12 0
Peter Monies under-groom	1 15 0
Andrew Coltran porter has yearlie besides a pair of my old shoes	2 0 0
Mrs. Bettie Chalmers	5 0 0
Mrs. Margaret Vance, housekeeper, and a 4th share of drink money, makes her wadges better as the others	3 0 0

Isobell M'Calla chambermaid £20 Scots . .	£1	13	0
Janet M'Cuillam, dairymaid £16 Scots . .	1	6	8
Margaret Anderson, a help to her . . .	1	0	0
Janet M'Guffack, washer, £12 Scots . . .	1	0	0
Andrew Jamieson, Gardiner	7	10	0
	£92	10	0

This is eleven hundred & ten punds Scots which is more free money as many a Gentleman has to Live on & Maintain their familie.

Add, to Duncan Craufurd's salary for buying nolt	£30	0	0
To my factor Mr Lawrie	20	0	0
	£142	0	0'

The servants, of course, received board; the cook had as perquisite the 'shoreland skins,' whatever they were; and vails, or, as we now term them, 'tips,' to servants bore a much larger proportion to wages than they do at the present day, and extended to every grade in the household.

The tower where Sir Alexander and Lady Jean spent their days together stands grey and roofless now on the green eminence beside the broad lake. It was ennobled by the presence of royalty once; for James IV., that prince of adventure, lodged there on one of the many pilgrimages which he undertook to the neighbouring shrine of St Ninian at Whithorn. As in many other instances, the deserted dwelling stands upon a site far preferable to the modern mansion which a later laird's lady persuaded her husband to build, 'as

a more genteel residence.' Pity the move was ever made, with the inevitable rupture of association, the certain loss of household articles, furniture, and the like, which might have been of little account then, but would be priceless treasures now. A man should be as chary of deserting the home of his fathers as of changing his religion or of taking a second wife.

There is abundant material in these old account-books to disprove the idea that life in this old tower was necessarily dull, even for ladies in the eighteenth century. The modern mind can scarcely brook the notion of existence without a daily post and daily and weekly journals. Nor was Sir Alexander indifferent to what was passing in the outer world; for here he pays 'John Park, paper cryer, for news and gasets which he is to send me constantly.' The library shelves at this day confirm the evidence of the account-books in proving that he laid out large sums in the purchase of books. The lady of the house had her time fully occupied by duties which might prove irksome enough to dames of our day; but they occupied her thoughts and hands. And who may aspire to higher felicity than is derived from the useful exercise of mind and body? Instead of ordering tons of goods from the Army and Navy or Harrod's stores, she relied mainly for supplies on her husband's home-farm—that 'boardland' which was attached to every mansion, and which may be traced in modern maps as the frequent farm name 'Boreland'—and upon her orchard and garden for fruits, which she worked up with her own hands into delicacies prepared according to immemorial

recipes. For instance, there is scarcely an ancient tower in Scotland, whether ruinous or still inhabited, near which, if the ground has not all been ploughed or grazed, you will not find the garden angelica growing wild: not the coarse-growing British weed (*Angelica sylvestris*), so common along our water-courses and fragrant enough in its degree, but the more aromatic garden angelica (*A. archangelica*), a native of northern and eastern Europe, 'long cultivated for confectionery,' as the botany hand-books record. Preserved angelica still appears on up-to-date dinner-tables; but who cares whether it be there or not? Whereas in olden time its culture, the due season for cutting it, the craft of preparing it, and the encomiums bestowed upon it by polite guests, represented part, though a small part, of the duties of housekeeping, year in year out.

As for the laird, time cannot have hung very heavy on the hands which kept these accounts. Landowning was a business calling. Although Sir Alexander employed a factor or agent, he dealt personally with his tenants, collected his own rents, planned and supervised improvements, and in his own writing entered every transaction as it took place. Then there were the local 'courts' to preside over, where justice was administered under the existing hereditary jurisdiction—every lord of a barony exercising authority within his territory. It was the life that the poets have sighed for—

> 'Happy the man whose wish and care
> A few paternal acres bound,
> Content to breathe his native air
> In his own ground.

Whose herds with milk, whose fields with bread,
Whose flocks supply him with attire;
Whose trees in summer yield him shade,
In winter fire.'

Howbeit, trees were scarce in those early days; land-owners were just beginning timidly and tentatively to plant near their houses, and the neighbouring peat-moss (few neighbourhoods were without one or more) was relied on for fuel. Cheerless kindling, you say, and covers the furniture with dust. True, madam, of peat when burnt in a modern grate with front and bottom draught; but no other fuel so steady, none so fragrant, upon an old-fashioned hearth-stone, which was the regular fireplace in Scottish houses of every grade in the days whereof I am maundering.

Let me turn aside to tell how the old manner was brought before me only a few years ago. We were fishing a moorland loch, an English friend and I; it came on a bluster of cold June rain, and we took shelter in the house of him who looked after the boats. His wife (who, by the by, bore the historic name of Hester Stanhope) proposed to bake us some scones for luncheon. Agreed, and down she went on her knees to blow aside a pile of white peat 'stour' (ashes) which lay on the hearth. Underneath was the live red coal which surprised my Southron companion to see. 'I could have sworn that fire was out,' quoth he; and continued to our hostess, 'How long has that fire been lighted?' expecting her to say from five o'clock that morning. I can see the good dame now as, still on her knees, she looked round at him and replied with

emphasis: 'It's just seeven-an'-twenty years since Rab and me cam to this hoose, and the fire's never been oot sin' syne!'

For more than a quarter of a century that humble hearth had never been cold. Night and day, summer and winter, shine and storm, it had yielded warmth and fragrance, and the 'stour' remained in its proper place, distributed by no baffling draughts through iron bars. Alas! when I was in that room three months ago the open hearth had been built up, and some stinking Whitehaven coal was smouldering in an up-to-date kitchen-range.

Now let me back to my theme, from which there is the less excuse for diverging, because, on closer inspection, I find that on sundry occasions Sir Alexander paid 'fraught' for a cargo of sea-coal from Whitehaven.

In the year following his marriage and the appearance of his first-born, the laird allowed himself to be 'ta'en up wi' affairs o' the State,' standing for the county against his neighbour, Colonel Vans of Barnbarroch, and getting returned for the moderate outlay of about twelve guineas. This entailed parting for a while from his bonnie Jean. He set out on horseback for London, with 111 guineas 'sealed up in a harn bag,' glad to know that the election left no bitterness between neighbours.

'To Coll. Vance's eldest son, when I gave him my good advice about his behaviour & manadgement going abroad for Bristoll & New England, a broad piece Carolus . £1 3 0'

As member of Parliament, Sir Alexander had taken the oath of allegiance to the 'wee bit German lairdie,' overriding his allegiance to his feudal chief, the Earl of Nithsdaill, who forfeited lands and title for his share in the '15, and owed his life solely to the devotion of his countess—sometime Winifred Herbert. Kenmure was on and awa', but western Galloway lay remote from the vortex which drew down so many chivalrous houses. Sir Alexander's only references to the rising are:—

'Returned from my intended journey to Edinbr., bein stopped by the highlanders coming to Leith. My expenses in that fruitlesse journey . . . . . *Sterling.* £11 5 11'

And again:—

'To my lord Galloway for charitie to supplie the prisonours at Prestoun . . . 10 15 0'

Other entries in that year of dolour betoken a peaceful tenor of life.

'29 June. For a piece of painted satin, being 10½ yards, for a nightgoune to my wife [what we should call an evening gown] . *Sterling.* £2 0 0
To 10½ yards of green cotton satin to line it with 1 9 0
Oct. 4. To 2 pounds of tea & canister payed to my lord Galloway . . . . 2 10 0'

A dish of tea must have been a rare luxury at this rate. Mr. Graham mentions the year 1720 as about the time when tea-drinking became common, but in 1726 the

price paid to Lord Galloway was still as much as 14s. a pound.

The monotony of country life was lightened by strolling musicians and professors of other arts. Thus—

'May 22, 1725. To John Cowand who came to keep my birthday with a great deal of company & for musick £1 1 0
July 21, same year. To the Irish musick who stayed a week . . . . . 0 10 0'

John Cowand had more than one string to his bow, for on the above-mentioned occasion he received half a crown as the price—surely a moderate one—of 'three salmond.' A soothsayer was not wanting.

'Oct. 13, 1715. To one Mr Gordoun, a dumb man of wonderfull sagacity, who pretended to foretell future events, in charity . . £0 10 0'

In another book it is noted under the same date:—

'*N.B.*—That ane Mr. Gordoun, a highland gentleman both deaf & dumb signed of my son Wm. that he would be a very great man & would be of the order of the knights of St. Andrew with a Green Ribbond, & that he should attain to verie great things & would be a great Scholar.'

A couple of years later the 'Highland gentleman' had been found out, and there is an entry of five shillings given 'to Dumbie Gordoun, ane impostor deserves nothing.' His forecast about the boy William was about as wide of the mark as could be, seeing that the subject of it became that one of my ancestors in reflecting upon whom I can take the least pride. An

'ill liver,' as the phrase goes, he dipped the estate heavily, and his only title to distinction consists in having become the father of three handsome girls, one of whom attained distinction in the social and political annals of the day as Jane, Duchess of Gordon. William's shortcomings cannot have had their source in his father's neglect. Manners as well as morals were well looked after; *e.g.*—

'Jan. 2, 1727. To my son William his New Year's gift a quarter Carolus, for quitting the bad custom of biting his nails . . £0 5 0
Oct. 26, 1728. To my son William to encourage him to keep from conversing with servants £0 5 0'

Sir Alexander had his little weaknesses also. He was fond of cards, and seems to have been a shocking bad player; for, whereas there are frequent entries of payment of money lost, chiefly to Brigadier Stewart and 'my lady Southesque,' no note appears of his winnings. Within three weeks of his death in 1730 he records—

'May 11. Lost to Mr. Alexr. Lockhart at cards to my eternall shame & follie . . £2 5 6'

To field-sports there is provokingly little direct reference in these books. Hunting-saddles are a constant subject of expense, and transactions about dogs receive mention, as when Sir Alexander bestows half a crown upon 'one my Lord Eglintoune sent to enquire how my wife was, & brought me a greyhound & two pair of Aberdeen stockings.' In 1724 there is an

agreement with one David Murdoch of Cumnock 'to breed [train] the dog Game to be a setter. He is to have thirty pounds Scots [£2, 10s.] in all when the dog is made.' It will be remembered, perhaps, that this is the exact date of the well-known picture at Thoresby Park, representing the Duke of Kingston, with the star of the Garter on his coat, walking up to no less than twelve pointers setting game and backing beautifully. This picture is reputed to be the earliest representation of the English pointer. Some years earlier than this, Sir Alexander paid the modest sum of £2, 15s. for 'a gun which Mr. Le Blanc recommends,' and 8s. for 'hail shot and gunpowder' for the same. But shooting was a precarious means of supplying the larder; 'pouting nets' were purchased for the better securing of muir-fowl and partridges. Of the two following entries on 28th July 1728, the first records a casualty in the kennel.

'To Mr. Cutler for visiting my dog Gwerpo who I was afraid had got his leg broke by a french beggar a red hair fellow blind of one eye, a notorious cheat and impostor £0 5 0

To expenses at a Court held at Druchtag where I was mobd and insulted by John M'Haffie, John Martin in Chilcarroch and several others and was obliged to raise the Court to have this exemplarlie punished and to get jogs made . . . . 0 3 0'

Jogs, more correctly 'jougs,' were the Scottish equivalent of English stocks, but were made of iron.

Sir Alexander kept a good cellar, and had some thirsty neighbours. If tea was scarce and dear, wine was plentiful and cheap, and a laird who lived on Solway shore need never want for French brandy in the days of Dirk Hatteraick and his kind.

'May 9, 1723. Payed for fraught of two trunks, 4 caises of wine burgundy & champagne & a box of books to Wm. Tompson Master of the ship Potomack of Irvine . . . . . £2 2 0'

The two last entries in the expense book read thus:—

'12 Januar 1730. Spent of old wine three bottles, Mirrie's wine four bottles; 2 bottles of french white wine, two bottles of Lisbon, 3 bottles of Malaga wine. Of Arack [rack rum for punch] three bottles. Mrs. Vance [housekeeper] has two bottles of Arack of what was given out in the cellar. Of Rhenish wine, two bottles spent in kitchin: all this when Garthland & his brother were here three nights onlie.

'17th Januar. Spent when Brigadeer Stewart was here, ten bottles of white wine, 4 bottles of french white wine, 5 more of Lisbon, 4 bottles of Malaga wine, one bottle and a half of Rhenish wine.'

Generous living entailed its corollary penalty. Spring blood-letting was one of the works of obligation in the eighteenth century. 'Mr. Craufurd, chirurgeon,' appeared regularly at that season, and on 5th June 1717 received a guinea 'for blooding my wife, Peggie and me, and giving Peggie a vomit.' Poor little Peggie

cannot have been more than five years old at this time, but she survived to be Mrs. Carruthers of Dormont. So deeply rooted was the belief in blood-letting as both remedy and preventive, that people actually incurred the trouble of letting blood from their cattle. Part of the annual expense of making ready the English drove was the fees of the cow-doctor for bleeding the nolt. If Dr. Craufurd retained the confidence of his patients, so did not another genius, who was called in to prescribe for the laird—

'To Doctor Stevenson, whom I had called to heall up my arm, didd me noe good but worse than when he came to it . . £7 7 0'

Sir Alexander then sent for a certain Dr. Bazin, of Liége, who came for a fee of 60 guineas and his expenses, and stayed for 8 months and 6 days, furnishing medicines at the rate of a shilling a day. Dr. Bazin also received a fee of ten Carolus (£11, 10s.) 'for waiting on my wife & the whole children in the small-pox.' When he went away he left three guineas' worth of drugs to be sent down the laird's throat, and carried off Sir Alexander's second son 'to cure him & learn Latin & French conform to a signed contract.' For this Dr. Bazin was to be remunerated at the rate of 24 guineas a year. Considering the relative value of money then and now, this expenditure certainly cannot be considered as consistent with the alleged penury of the Scottish gentry.

As an improving landlord, Sir Alexander had the usual experience of one who meddles with agrarian use

and wont. The land was mainly grazing, pastoral, and unfenced; but there were numerous crofts also, and no improvement could be carried on without interfering with these. The first step was to increase the size of the holdings, so that a family might earn a fair living off a farm, and this spelt eviction. It also meant the erection of fences, the abolition of the ancient rights of common pasturage and the old and wasteful 'runrig' system of cultivation, which had been handed down from primitive Celtic times. Now the herding of cattle upon unfenced pasture was a constant source of employment to the rural population, who viewed with intense displeasure the erection of dry-stone dykes. Under the leadership of one Billy Marshall, of the blood-royal of the gypsies, they formed themselves into an association of 'Levellers,' whose business it was to throw down the obnoxious fences. Billy had deserted from the Scots Greys when serving under Marlborough in Flanders, and his military experience enabled him to impart a formidable character to this organisation. Their nocturnal raids were not confined to inanimate objects. Numerous entries in the laird's accounts refer to proceedings against 'those who haked & destroyed my cattle.'

The Levellers were not put down without difficulty; soldiers had to be marched into Galloway to quell the rioting; several men were killed, and in one encounter at Culquha in the Stewartry, some two hundred prisoners were taken, many of whom were consigned to a fate more dreaded than death—banishment to the plantations. Scraps of verse may still be gathered in

the district, breathing the class bitterness engendered by land enclosure:—

> 'Against the poor the lairds prevail
> With all their wicked works,
> Who will enclose both hill and dale,
> And turn corn-fields to parks.
> The lords and lairds they drive us out
> From mailings where we dwell;
> The poor man cries, "Where shall we go?"
> The rich say, "Go to hell!"'

Travelling was slow and difficult in Galloway before the era of Macadam. The only mail road in the province was the military one to Portpatrick, then called Port Montgomerie, which was the chief line of communication with Ireland: once off that, travellers had to follow the pack-horse tracks, which did not admit of carriages on springs. Nevertheless Sir Alexander, besides frequent visits to Edinburgh and his annual journey to London for the parliamentary session, moved about a good deal. Thus—

'Aug. 15, 1724. Returned from the west country from seeing my lords Eglintoun, Dundonald, Wigtoun & Loudoun, wheren half-a-guinea given to my nephew Sandie Stewart is compted . . . . . *Sterling.* £16 6 0'

Lady Jean also took occasional jaunts,—to Edinburgh, and to Moffat for the waters.

In 1720 Sir Alexander went farther afield. Having paid £3 'to Baily Osburn for a blue coat to wear in travelling,' he notes, '11 June. *N.B.*—That day begun my journey to Aix-la-Chapelle.'

	Sterling.		
'Dec. 11. Returned from Aix-la-Chapelle, which journey cost	£590	7	8
To cash laid out for books in my travells .	22	2	2½
Given in compliment to my wife for her extraordinary care & good management of my affairs in my absence abroad . . .	21	0	0'

Too soon this happy, prosperous household was wrapped in gloom. Beautiful Lady Jean had borne seven children to Sir Alexander, and was expecting an eighth when she fell into ill-health. They bled her on 6th April, on 4th and 18th May, poor thing! The following touching note, in strange contrast with the dry entries in the ledger, describes the result of such treatment:—

'Saturday, 28 May 1726, Lady Jean Maxwell dyed betwen six & seven in the afternoon, having been delivered on Sunday the 22 of a dead-born Son, being the second she had born soe: took a High fever on Munday morning about three o'clock, & died on the Saturday, to my unspeakable Losse & greif, the only trouble she ever gave, the greatest wound to my Spirit. She was but thirty-six years of age past the first of December last. Wee was fourteen year & five Months married. Never two lived more happily together; never man had soe great a Losse of a Loving virtuous wife & faithful friend and companion, endowed with the greatest ornaments and qualities of bodie & Mind, capable of the greatest affairs, the best counsellor I ever had, indefatigable about any businesse she was employed in.'

The funeral was on a lavish scale of expenditure. One payment in connection with it, including mournings for sundry persons, amounted to £216, 12s. 10d., and the total expenses cannot have been less than

£300. It is difficult to calculate what would be the equivalent of this sum in the twentieth century; impossible, indeed, if regard is had to the incredibly small charges made by working tailors in the country. For instance, John M'Morrow makes two frocks and two pair of breeches for a couple of grooms for half a crown. John Gun, in 1724, makes a suit of clothes to Pat Monies for 3s. 4d. And here is

'James M'Kie taylor for making 3 frocks for the servants at 10 pence per peice & 3 pair breeches at 6 pence £0 4 0
Itt. for 8 skins to line there breeches at 5 pence per skin . . . . . 0 3 0'

It does not appear that the cloth was supplied by Sir Alexander, else surely the breeches would cost more to make than the frocks. If the mourning clothes supplied to household and retainers were no dearer than others, the payment represents supply to a vast number of persons. At all events, the expenditure on this doleful occasion ill accords with the idea that a Scottish laird was normally in straitened circumstances. There is far more money about at the present day than there was in the reign of George I., but it does not go nearly so far.

Sir Alexander did not survive his excellent wife for many years. His books are full of mournful reference to his loss.

'August 18, 1726. Payed to M'Guffock by my dear wife's desire as the price of 60 lb. of soap. She was not certain if it was due or not, but out of her justice would err on the safe side . . . . . £1 10 0'

He was not an old man—probably not more than fifty—but his health was breaking; and the remedies he sought from divers 'chirurgeons'—bleeding and powerful drugs—hastened the end. In August 1729 he paid 3s. 'to one Wallace for a shoe to my right foot, big swelled,' and in May following he was laid beside his bonnie Jean in the roofless chapel of Kirkmaiden by the sea, where the winds and waves, the curlew and the black-backed gull, chant ceaseless requiem. The last payment entered in his beloved cash-book, only ten days before his demise, was 7s. 10½d. for 2¼ yards of muslin 'for two aprons to Peggie.'

The impression received from an examination of these venerable volumes is that of a cheerful affectionate family inhabiting a comfortable home, finding ample occupation in the affairs of their own neighbourhood, yet not indifferent to what was moving in the outer world. A recent authority has pronounced the books of the period to have been few and dull. Well, it was the age of Addison and Steele, Jonathan Swift and Alexander Pope, not to mention a few others who drove the quill to some purpose. Sir Alexander was a great book-buyer, for which the present writer has daily cause for gratitude. Probably the sunlight lay as broad upon his landscape as it does upon that of men of his class in the present day.

LXIX

A Winter Storm

After lulling the land with preposterously balmy air for six weeks on end, Nature changed her mood with a vengeance on Saturday, December 26, 1908. Summoning an angry easterly and south-easterly gale to accentuate the sudden fall of temperature, she assumed an aspect of appalling gloom. Twilight reigned from sunrise to sunset; snow began to fall in the night, drifting outrageously, so that from Saturday morning till Thursday following we were entirely cut off from the rest of the world. Never, not even in the great snow of January 1895, have I seen such rapid drifting. A singular feature of the storm was that, although on the west coast of Scotland it was accompanied by furious easterly and south-easterly gales, in corresponding latitudes on the east coast, at Alnwick, for instance, snow fell to the depth of about eighteen inches without a breath of wind, wherefore there was no drifting.

The rigour of those days told with remarkable severity upon winged creatures. In districts so far apart as Edinburgh and Torquay observers have recorded a premonitory southward movement of various species in great numbers, taking place before snow began to fall; and during the storm my own woods swarmed with blackbirds and thrushes in extraordinary quantity.

One is accustomed to regard the common partridge as one of our hardiest native birds, yet many of them succumbed in the snow. Several were picked up dead

—not from hunger, apparently, for the storm only lasted three days, and the crops of most of them were crammed with young grass; nor was the cold so intense, although aggravated by the gale, as to account for their death. Probably they were buried in drifts, although sheep have been known to live three weeks under the snow, and the blood temperature of a partridge is several degrees higher than a sheep's.

It was interesting to watch the businesslike proceedings of the starlings. Unlike their cousins, the rooks and jackdaws, these most intelligent birds do not nest in colonies, but at all other times of the year they are intensely gregarious. Let it be said in passing that their passion for company of their own kind ought to prevail upon humane persons never to keep a solitary caged starling, as is too often done, seeing how greatly the penalty of imprisonment is intensified for creatures of social temperament and habit.

Well, in these fierce last days of December the starlings went about in gangs of twenty or thirty, alighting on lawns where the snow lay thinnest. Forming a regular line, they worked off the snow systematically and pecked the tender grass and clover shoots. Taking pity on a party of the little rascals which were working just under our breakfast-room window, we flung out a savoury mixture of porridge and kedgeree. Immediately they sent one of their number to report upon the nature of the consignment, the main body continuing to prod under the snow. Now a blackbird would have set to gobbling without hesitation, but a blackbird is a child in intellect and wariness beside a

starling. The scout starling ran up to the food, sidled round and round it, approached it, retreated, approached it again, seemed most strongly tempted to sample it, but resisted, and flew back to his comrades with his report. Evidently he told them he could not be sure about the nature of the supply; it looked all right, smelt particularly well, but——; so they sent him back, the same bird, for a fresh inspection. He went through the same performance, circling round the alluring substance, all but touching it, never quite. Finally he made up his mind that it wouldn't do—better leave it alone, he reported; and no more attention was paid to it, the hungry little party continuing to burrow in the snow for insipid green stuff, while the nutritive and tasty offering we had made was declined with, or without, thanks. It is a good thing to be clever, but it is as possible for starlings as for other people to be too clever by half.

THE END

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